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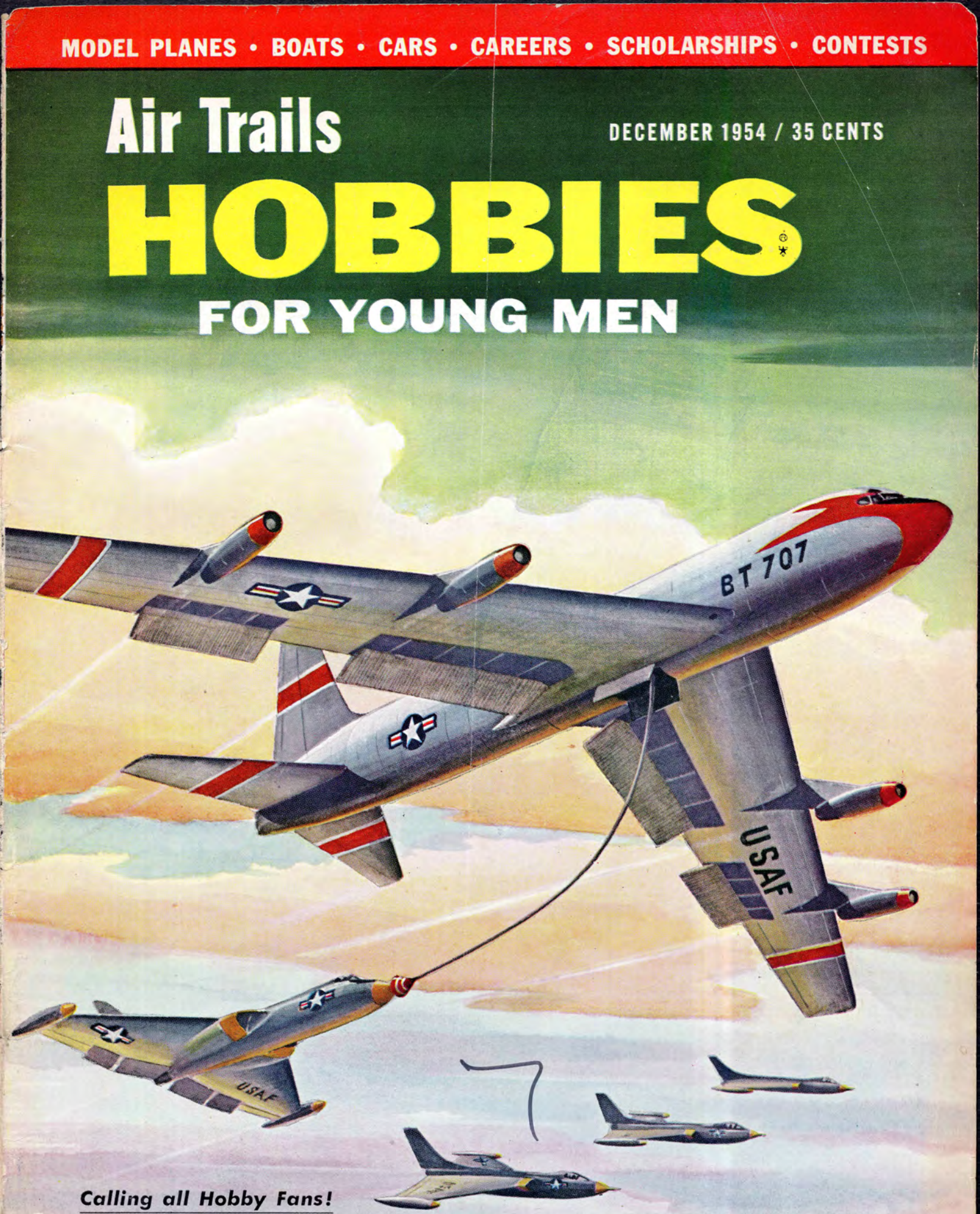

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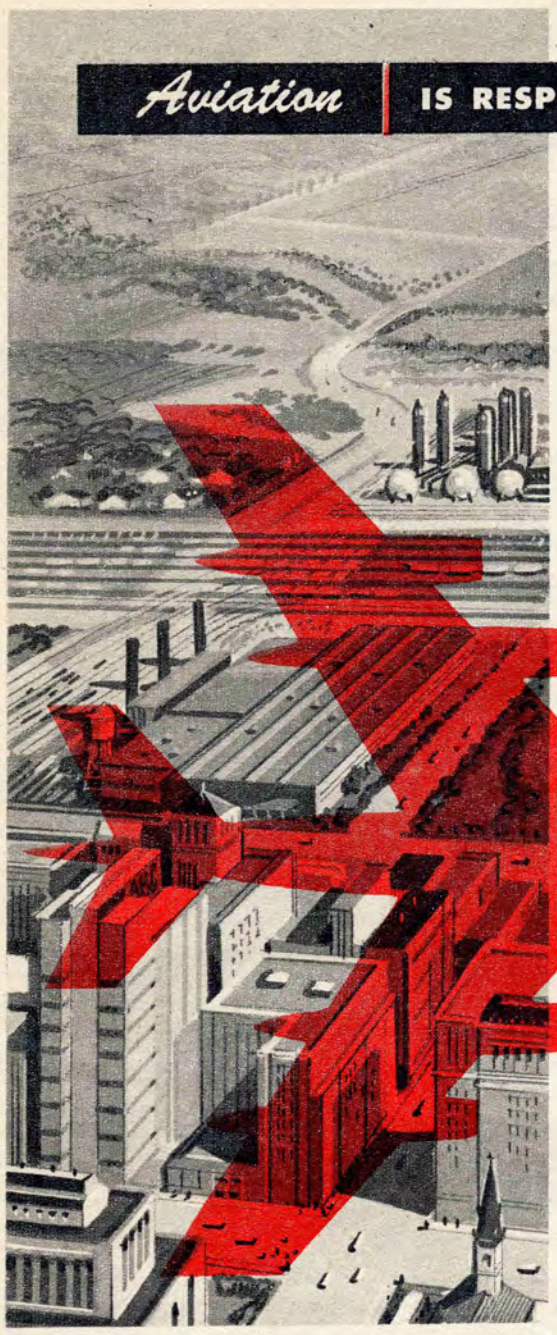

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AIR TRAILS HOBBIES

FOR YOUNG MEN

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To tie in with Walter Jefferies' incomparable 3-view drawings of the Boeing 707 jet aircraft we commissioned Alfred Owles, well-known West Coast water colorist, to do our cover drawing this month. The 707 is real, but the fighters are strictly AO's own design. Our thanks to Boeing for their assistance.

A pair of beauties! More data on left one on pages 24 and 25.

These talented 8 collected $20,000 in scholarship money. P. 28, 29.

Big upheavel in world of model railroading! See photos p. 38, 39.

Boeing's avidly awaited jet transport in 3-view form . . . p. 42, 43.

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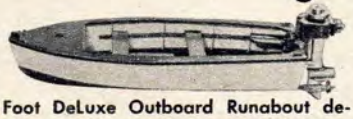

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AQUA-tivities

■ Some real smart boating tricks have been sent in to us, a few being shown here. In Fig. 1 we have a simple scheme to get water cooling with engines intended for air cooling; in order to get good heat transfer, tubing should be *tight* against fins of cylinder. If it tends to pull away, clamp it down tight. The inlet end of the tube is flared as much as possible. While Frank Frazier (Magruder Rd., Kevil, Ky.) who sent us this idea, showed the outlet going over the side of the boat, a stronger pull on the water might be had by running the outlet through the bottom of the hull, with the end facing to the rear.

PFC. Charles Dern (29th Sig. Det., 549th AAA Btn., Fort Bliss, Texas) finds it handy to make connections as in Fig. 2 to lights on the cabin top, through the metal hand rails that often go down into the hull. This is especially useful with boats such as the Century Resorter model, which has a "convertible" top. Lights are simply connected to the hand rails, and contacts arranged in the hull for the latter; top can then be removed without having to disconnect any wires.

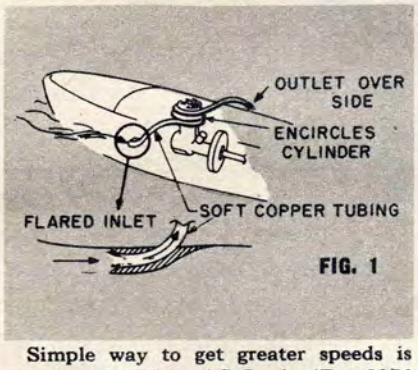


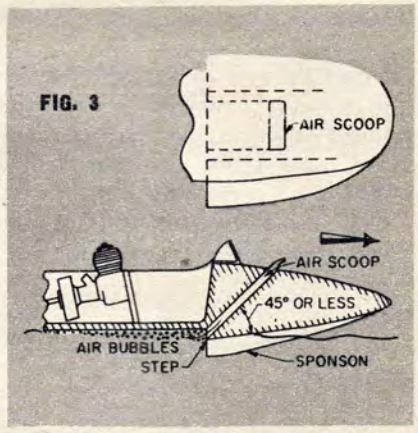
FIG. 1

Simple way to get greater speeds is suggested by Richard S. Levin (Box 2076 University Sta., Gainesville, Fla.). As shown in Fig. 3, you just build an air scoop on the bow of your craft, with the outlet at the step. Air bubbles are thought to decrease skin friction, resulting in more speed. Will probably be useful only if section of hull where air comes out is under water.

Clubs and Contests. Some race results have been received from Bob Graham (127 Cottage St., Jersey City 6, N. J.); at the 2-day Eastern Circuit International Race held in Philadelphia. The McCoy Trophy for high speed was taken by Max Biederman of the N. Y. Model Knights, who made 78.91 mph with his Class D boat. First-place winners are as follows: Class A—Max Biederman both days; Class B—same; Class C—Bob Graham and Walt Macwilliams; Class D—same as A; Class E—Bob Deroo and Harold Bergman; Class F—Larry Werner Jr. and Chas. Baxmann. Top speeds for the two days: A—55.72 mph, B—72.58, C—72.58, D—78.91, E—69.76, F—55.90.

At the Toronto International Regatta, there were these winners: Class B—Charles Watkins with 48.64 mph (only entry); Class C—Bob Graham, 67.41 (only entry to complete a run); Class D—Bill King, 84.90 (this is new World Record); Class E—R. McClymount, 70.31; Class F—Chas. Baxmann, 60.00. A Nomination Race was held; object is for entrant to state what speed he will run at—then try to do it! All Classes were combined in this event. Bob Colson nominated 80.50, actually made 80.35, to take first. Second was Bob Graham, who said he would make 66 and actually did 66.66; third man was Ricky Baxmann, who hit 49.45, after nominating 48.25. This sort of event should be fun at any meet, regardless of the sort of boats running.

At this meet, the McCoy Trophy to top total mph for the two race days was



taken by Charles Baxmann with 268.19. Bob Graham was runner-up with 263.94. Bob asks that we correct the impression which might have been had from comments in the September Aqua-Tivities Column that the former Class D Speed Record was made by a Dooling engine; actually, a stock McCoy .60 was used; we do not know what engine was used to set the new Speed record listed above. Also, Bob feels that the comment relating to use of flash steam by the speed boatmen is misleading, since he knows of only two successful modelers in this country using this form of power; one

(*Continued on page* 69)

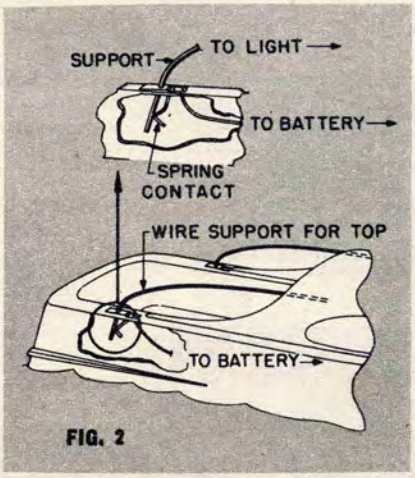


FIG. 2

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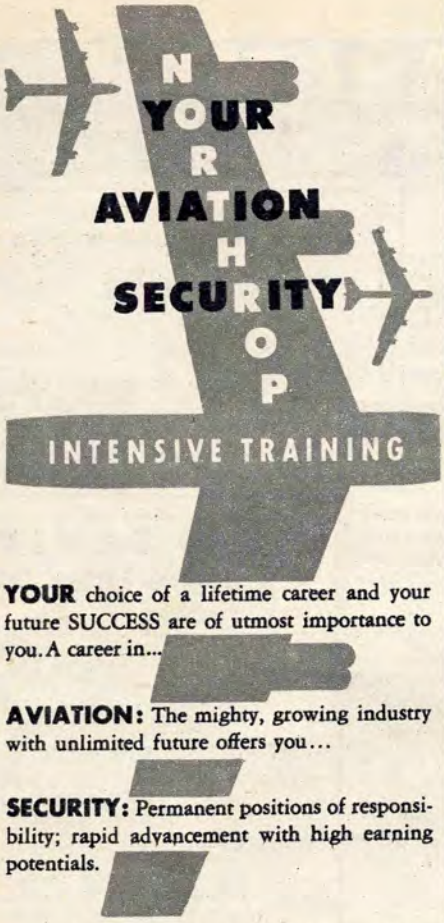

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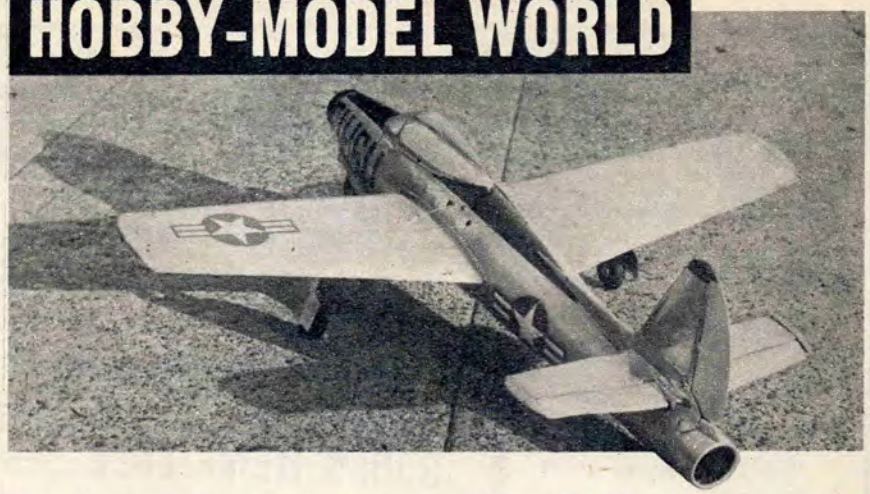
HOBBY-MODEL WORLD



■ A trio of Lilly, Pa., air-modelers claim a new record: they busted 128 props during the 1953 flying season (1954 results not yet tabulated). And by golly, before you dispute their claim you've got to produce the evidence because Tom Wilk, Steve Sawko and Ronald Yingling have all 128 props (or parts of same) strung up for all to see, and require all challengers to "produce" or else!

Free Plans. Need we say more? Some splendid plans of the Navy's T-28B training plane have been prepared by North American Aviation. Get your gratis copy by sending along a request to Lt. Cmdr. Richard D. Lazenby, Office of Information, Department of the Navy, Washington 25, D.C.

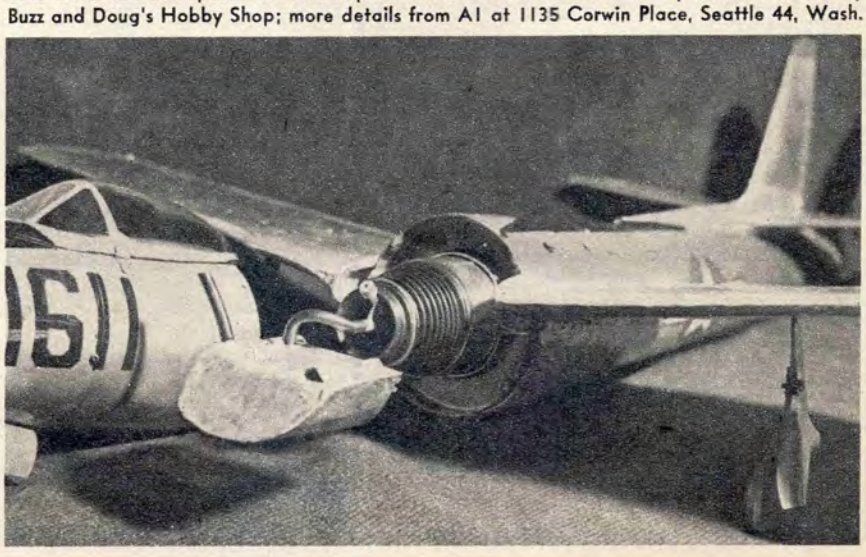
A set of model plans for the "USS Nautilus," the world's first atomic submarine, has been drawn up by her builder, the Electric Boat Division of General Dynamics Corporation. The plans may be obtained by writing the Chief of Information, Department of the Navy, Washington 25, D.C., or the Public Relations Department, Electric Boat Division, General Dynamics Corporation, Groton, Conn.

Scale Speed Plane Racing. For the past two years air-modelers in the Grand Rapids, Mich., area have been competing in "scale speed" races. Models are first judged, we gather, according to the A.M.A. control line flying scale regulations. Power can be up to .29 cubic inch. Entries must be scale models of racing planes and painted in their proper racing garb (military colors where such applies). All entries must take off the ground unassisted. A bonus of 20% of your total scale points is awarded if the motor is fully cowled (excepted are the glow plug and needle valve arm). To put scale and speed on pretty much an even basis, three points for each mile per hour are awarded.

Frank Stanford says it's a great sight to see Gee Bees, Mulligans, Caudrons, and other famous racers in the line-up. Frank has been winning races with his Musciano-designed Caudron; now he's working on a Musciano Folkerts Racer. For additional details concerning scale speed contact S&S Hobby Shop, 1836 S. Division, Grand Rapids.

Mono-Line Marks. "Thought you might be interested," (*Cont. on page* 87)

Outstanding attraction at Jim Walker's Northwest Championships air-model meet was this Dyna-Jet powered all-aluminum F-84. Wingspan is 30¾ inches; length 30½ inches. Flown on "70" strand steel .021 wires. Albert Fields and Eric Banbams built it from a Japanese kit. Spun aluminum sections held by rivets form the fuselage; wing is sheet aluminum over wood ribs and spars. Recorded speeds have been from 95 to 105 mph. Kit is stocked by Buzz and Doug's Hobby Shop; more details from Al at 1135 Corwin Place, Seattle 44, Wash.



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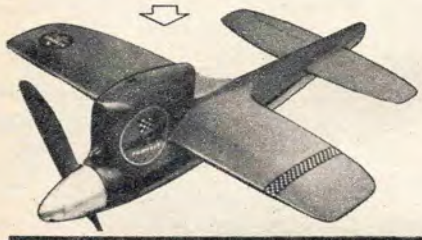

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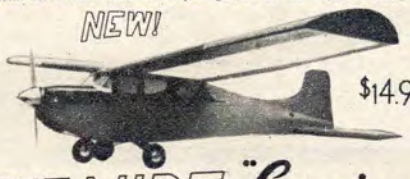

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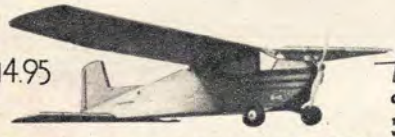

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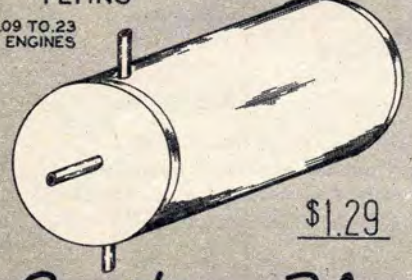

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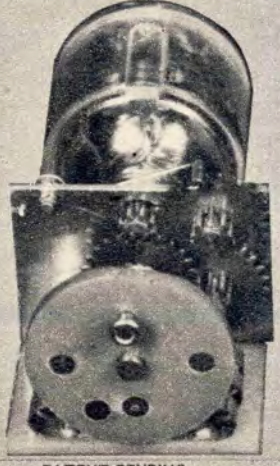

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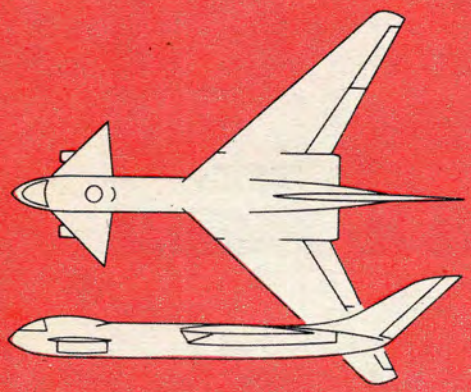

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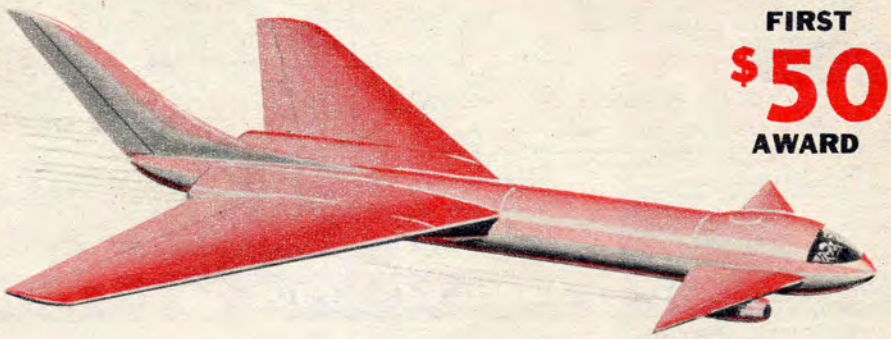
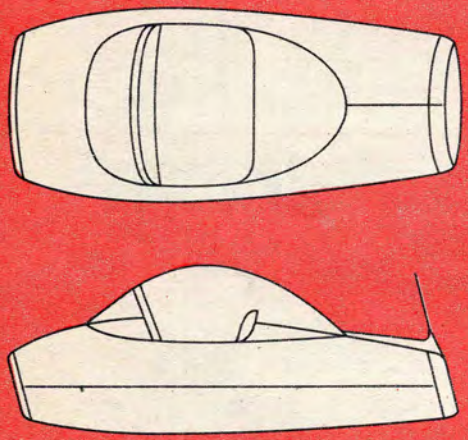
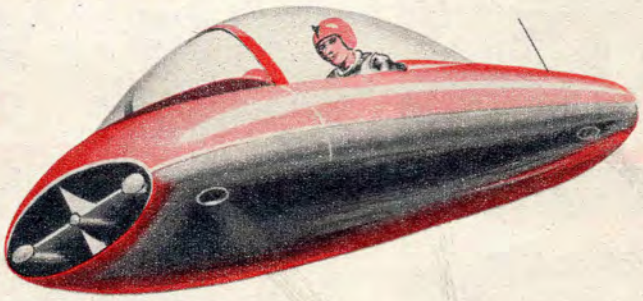


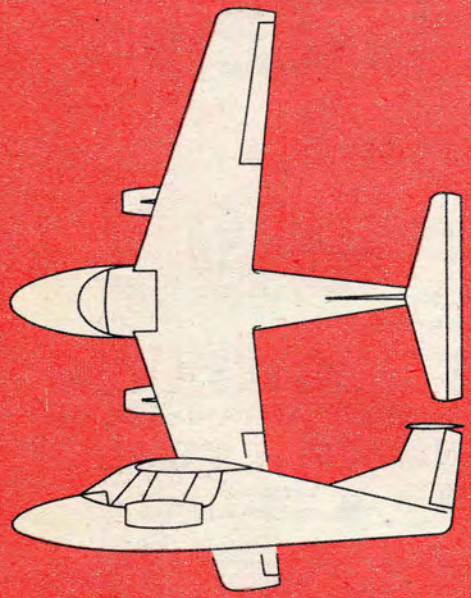
Canard-type high-altitude bomber by Paul Tallant of Detroit, Mich. Has two 10,000-lb. thrust ramjets mounted on front surface and four 15,000-lb. thrust turbojets in wing roots. All control surfaces on trailing edge of wing. Plane's top speed is 800 mph.



SECOND
$25
AWARD



Something out of science-fiction. A triphibian personal vehicle by Bob Raikow of Detroit, Mich. Motive power is "repulse ray" supplied by atomic battery, forward thrust by air jet. Can be used as submarine. Max. ceiling 100 miles; min., ocean floor.

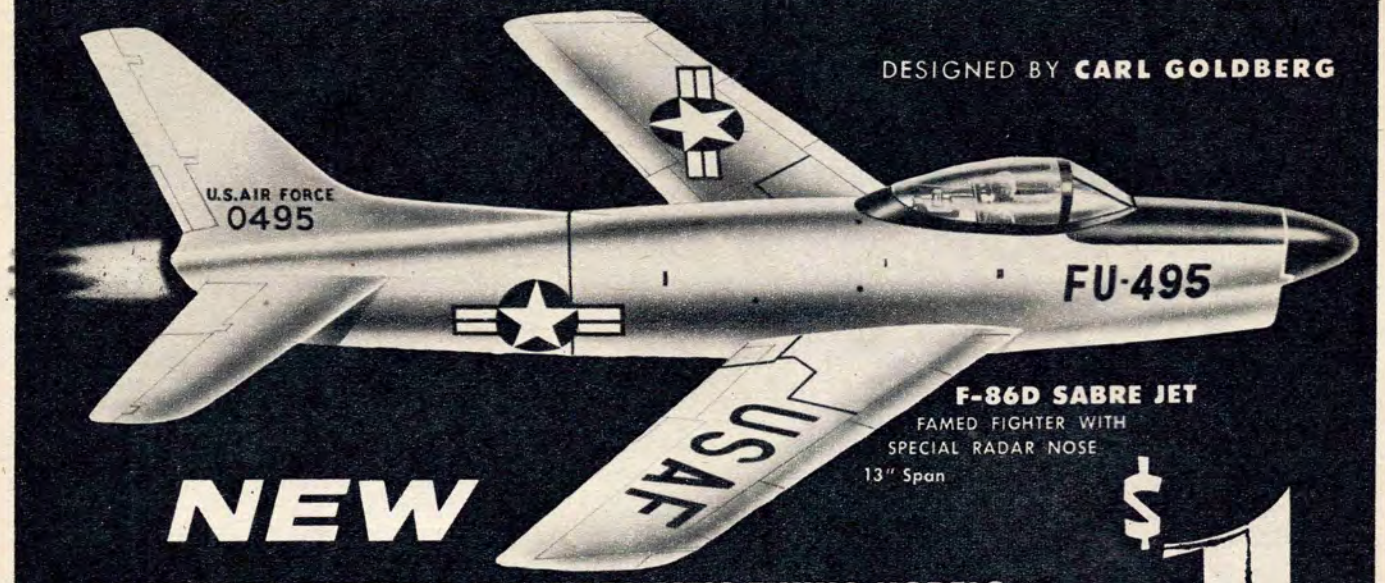


THIRD
$10
AWARD

Four-five place personal plane by Daniel Duran of New York, N. Y. Powered by two small turbojet engines of approximately 500 lbs. thrust each. Fuel tanks are located in wing roots. Tricycle landing gear. Wing span is 36 ft., top speed 300 mph.

Rules governing this "aircraft of the future" competition are as follows: Three-view sketches of the envisioned aircraft will be required. These should be not less than 8½ x 11 inches for the entire three views. Give sketches of the complete airplane or space craft in three-quarter front and rear positions. Photos of a model of the proposed design may be included. Information on the powerplant(s), estimated performance, dimensions, and explanations of any unusual features are required. Data as to age, occupation or schooling of the entrant will be welcomed by the editors and judges. The design may be of any type; space craft, commercial, military planes (fighters, bombers, troop transports), planes for the private flyer and sporting or racing airplanes. The entry each month judged the most practical or of the greatest significance will receive an award of $50; $25 for second place and $10 for third. Mail entries to Airmen of Vision, c/o Air Trails HOBBIES for Young Men, 304 E. 45th St., New York 17, N. Y. The editors regret they cannot enter into any correspondence on submissions.

DESIGNED BY **CARL GOLDBERG**



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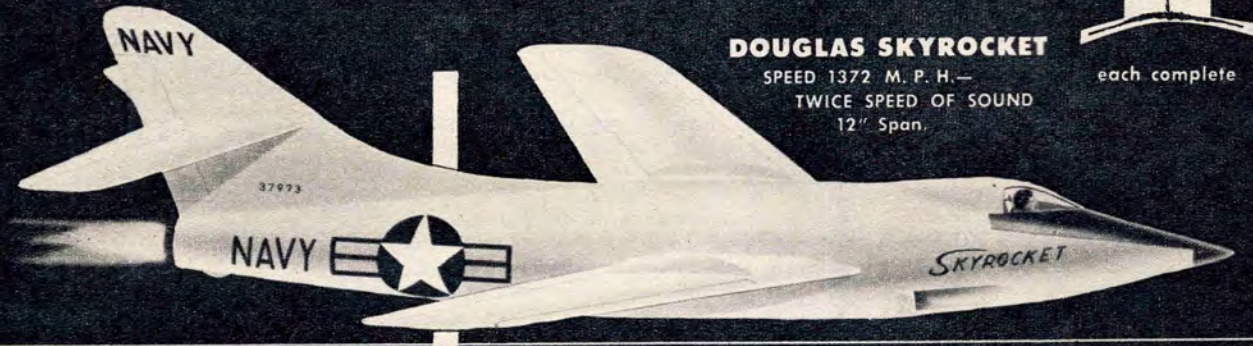

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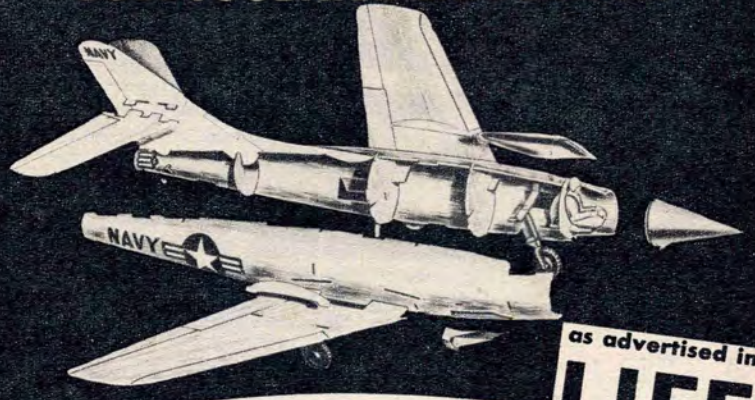

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HOBBY BOOKSHELF

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Model Making by H. S. Coleman (Thomas Y. Crowell, 432 Fourth Ave., New York 16, N. Y., 87 pages—$2.00) covers within its pages not only the art but also the reasons for model making. Many of us think of models in the form of ships, cars, trains and airplanes, but the author has shown the uses of models in civic and industrial planning as well.

This book outlines the best procedure of planning and working out the model in detail. Chapters outlining the construction of Sir Francis Drake's "Golden Hind" show the need for proper planning and diagramming. Another set of plans with detailed instructions shows the method of making a working model of a marine steam boiler.

The Model Aircraft Handbook by William Winter (Thomas Y. Crowell, 432 Fourth Ave, New York 16, N. Y., 200 pages—$3.50). This is the third edition, revised, with full detailed instructions for the building of model aircraft.

The author has not economized on either information or diagrammatic detail to help both the experienced and inexperienced model maker. If the reader has a problem that stumped him in the past the answer is to be found here. Engines of all types and their fuels and adjustments, landing gear, pontoons, radio control and U-control flying are a few of the many subjects made simple.

The chapter on aerodynamics and proportions can be read and reread particularly by the model maker who bypassed the simpler types of aircraft and went headlong into gas-powered models.

This clearly written, well illustrated book can be classified as complete guide for model aircraft builders.

Submarines by C. B. Colby (Coward-McCann Inc., New York, N. Y., 48 pages) is a surprisingly complete pictorial story of the submarines in service.

Although it is one of the least publicized branches of service, Major Colby has by photograph and description given the reader a "torpedo-eye" view of the submariner's life and the training needed before a man can wear the golden dolphins on his naval uniform and belong to that select branch of sea service.

Air Drop by C. B. Colby, (Coward-McCann Inc., New York, N. Y., 48 pages). Ever since man has wanted to leave the earth and fly he has been plagued by a second worry—how to come down safely in case of trouble. Leonardo da Vinci in the fifteenth century gave us the first sketch of a parachute; the idea gained momentum.

Here as in his other books Major Colby has by photograph and terse description compiled information on the parachute and its many uses, particularly for the military. Paratroop training is described with action pictures, the use of disposable paper 'chutes in dropping supplies in guerrilla territory, and the use of parachutes for the quick braking of jet aircraft also pictured.

Experiments with Atomics by Nelson F. Beeler and Franklyn M. Branley (Thomas Y. Crowell, 432 Fourth Ave., New York, N.Y., 160 pages—$2.50). This is a book long needed to show the constructive uses of the atom. In the past our mental picture of the atom has been the mushroom-shaped cloud made by an atomic explosion, and this to some degree has "clouded" our conception of atoms and their ever increasing role in every area of our activity.

The authors have with simplicity explained the nature of the atom step by step, graphically illustrated by experiments which the reader can conduct himself using simple household objects.

How to Make Mobiles by John Lynch (Studio Publications Inc., and Thomas Y. Crowell, 432 Fourth Ave., New York 16, N.Y., 96 pages—$3.00) will give the reader not only an opportunity to create but will aid in his better understanding this new art form.

Piece by piece the author assembles a mobile, explaining the uses of color and form for balance and the uses of figures and design. Materials and tools for this art form are inexpensive and simple in nature.

selected books from the

HOBBY HELPERS LIBRARY

#M-1 — THE MODEL PLANE MANUAL by Walter A. Musciano — McBride — $2.95

#M-2 — BUILDING & FLYING SCALE MODEL AIRCRAFT by Walter A. Musciano — McBride — $2.95

#Z-6 — 1953 MODEL AERONAUTIC YEARBOOK by Frank Zaic — Model Aeronautics Pub. — $1.00

#Z-7 — MODEL AERONAUTIC ENCYCLOPEDIA by Frank Zaic — Model Aeronautics Pub. — $1.00

#Z-8 — 1951-1952 MODEL AERONAUTIC YEARBOOK by Frank Zaic — Model Aeronautics Pub. $1.00

#B-3 — AERODYNAMICS FOR MODEL AIRPLANES by Donald K. Foote — A. S. Barnes & Co. — $3.00

#B-4 — MODEL AIRPLANE ENGINES by Donald K. Foote — A. S. Barnes & Co. — $3.00

#G-5 — MODEL CONTROL BY RADIO by Edward L. Safford, Jr. — Gernsbach Library — $1.00

#G-54 — RADIO CONTROL HANDBOOK by Howard G. McEntee — Gernsbach Library — $2.25

#D-55 — ELECTRONICS FOR EVERYONE by Monroe Upton — Devin-Adair Co. — $6.00

#G-56 — BASIC RADIO COURSE by John T. Frye — Gernsbach Library — $2.25

#R-57 — RADAR WORKS LIKE THIS by Egon Larsen — Roy Pub. — $2.00

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MODEL PLASTIC PRODUCTS
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Everything Under Control

News, Views, Comment on Radio Control Planes, Boats, Vehicles by Howard McEntee

■ With all the talk and action these days on trimmable elevators, dual proportional control, and so on, a newcomer to R/C might think that escapements are on the way out. Well, they aren't, and we show here a few escapement tricks that will enable the thousands of users to get even more out of these universal gadgets.

In Fig. 1 is an arrangement used by Kenton H. Brenegan (16 Louise Rd., New Castle, Del.), whereby he can have the normal rudder action, plus engine two speed, all with a single two-arm escapement. Latter is mounted on a bulkhead, with rudder driven by a torque rod and loop over the escapement wheel drive pin. A second loop is placed over the pin, with a hinge fastened to side of fuselage; wire on other side of hinge has a rubber pad on the end, pad being adjusted to cover end of a tube, also attached to fuse side. The engine is fitted with dual needle valves, the high-speed valve attached direct to tank, low-speed valve with a Tee as shown.

Escapement positions are: 1—(as in drawing) neutral rudder-high speed; 2—right rudder-high speed; 3—neutral with low speed; 4—left rudder-high speed. Rubber pad is adjusted to close tube only in position 3. Kenton's sketch showed only a single needle valve on the engine; system would look just the same with this, but there would have to be a valve somewhere in the bleed line to control the amount of air bleed for the three high-speed positions. He would like to hear from readers who try this arrangement, and compare notes.

Fig. 2 is somewhat on the same lines, but is used by Keith A. Barrigar (1518 E. Caro Rd., Caro, Mich.) to work an elevator from his rudder escapement. Again, the rudder is operated by the usual torque rod and loop over escapement wheel pin; Keith wanted only up-elevator, so the torque rod for this surface has only a wire at the forward end—not a loop. Positions are: A—neutral rudder and elevator; B—right rudder with up-elevator; C—(not shown) neutral rudder with up-elevator; D—left rudder with neutral elevator. As seen in sketch for position B, the pin holds the elevator wire down the same amount for right rudder and the lower neutral. The elevator has a light wire spring bearing on the upper surface to push it downward, and a stop below to hold it in neutral. If you want up only in the lower neutral, you can get this action by moving the elevator torque rod pivot somewhat higher.

Many modelers have found that normal escapements have insufficient power to operate elevators (or even rudders) on large fast planes. Heavier rubber and more escapement voltage and spring tension help, but tend to hasten wear on the escapement parts. Frank Doty (Route 2, Chardon, Ohio) offers the scheme in Fig. 3 to take care of this. He calls it an "escapement multiplier." The primary escapement is at right, and we show only the shaft and crank arm of this one; it can be any (*Continued on page* 75)

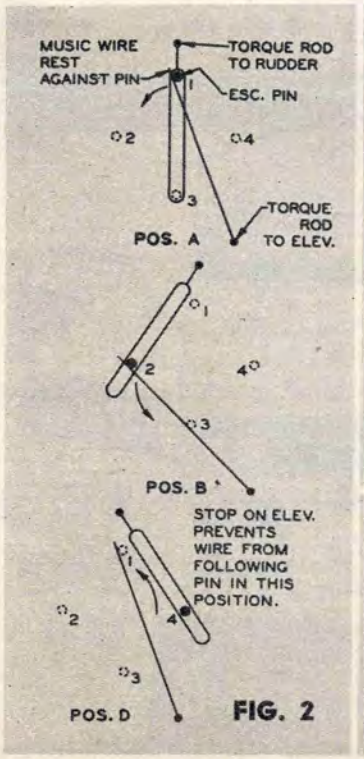
MUSIC WIRE REST AGAINST PIN
TORQUE ROD TO RUDDER
ESC. PIN
TORQUE ROD TO ELEV.
POS. A
POS. B
STOP ON ELEV. PREVENTS WIRE FROM FOLLOWING PIN IN THIS POSITION.
POS. D

FIG. 2

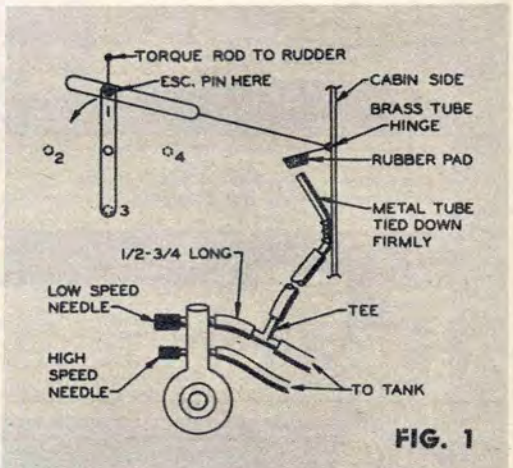

FIG. 1

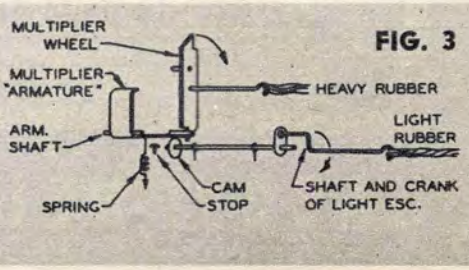

FIG. 3

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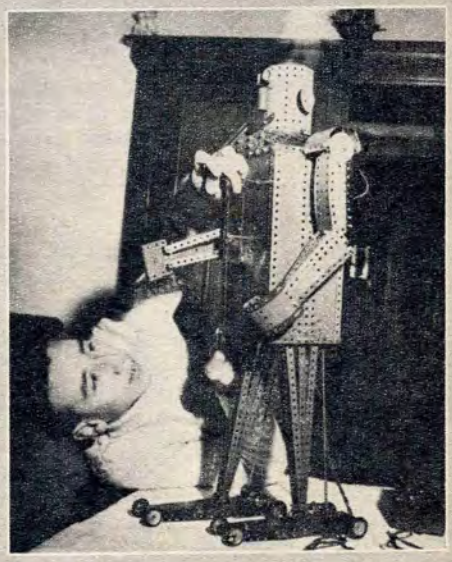
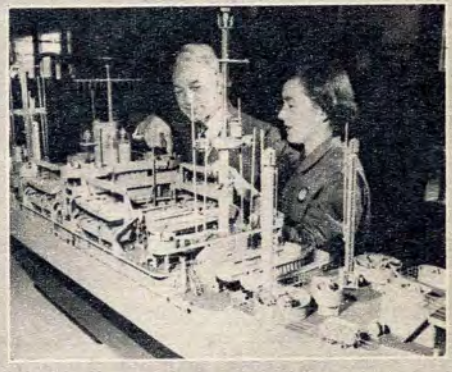
Speaking of HOBBIES



Young fellow and his monster there at the right is Tony Press, 17, of East Malvern, England. With $28, 150 pieces of metal and a small electric motor Tony turned out this 30-inch working robot. When plugged into a light socket on a long lead, the robot walks with arms swinging. Most of Robbie's parts came from a Meccano set. Meccano is to English fellows what Erector is to Americans. Tony, a student of mechanical engineering at a Melbourne technical college, has been constructing working models from Meccano parts for the past nine years.

Our "Trick Stuff" competition has drawn a fabulous number of entrants. But about 98% of the material submitted we see over and over again. To keep it all fair and square where there's duplication we pick the first one submitted which we can understand (some of the submissions are like peering into a glass darkly). Keep your entries coming; keep them original; and make them understandable. Wanted you to see that photo of a model of the USS *Sarasota*. It's 1/48th the size of the real attack transport. This is the sort of detailed model that makes a hobbyist's mouth water. Admiring the job is Sally O'Hara, "Miss Centennial of Mare Island." That's the California naval shipyard, you know. Patternmaker E. E. Greenwall points out the minute detail work. Before construction starts on any class of ship, Navy craftsmen create exact-scale models for engineers.

In this issue we come to the end of our special series of photo competitions designated "Realism-In-Models." We've handed out $425 in cash prizes for most realistic poses of model submarines, vehicles, planes, autos and boats. Response has been so good we intend to pick an outstanding photo each month for each issue; $25 will go to the winner. Can be on any of the aforementioned subjects, separate or combined. Give data on camera, film, exposure, lighting, printing or enlarging paper used. Entries should be at least 5 x 7 inches—8 x 10 inches preferred. We'll return all entries but cannot assume responsibility for any going astray. Don't send negatives. Address your entries: Realism-In-Models Photo Competition, Air Trails Hobbies, 304 E. 45th St., New York 17, N. Y.



Followers of Roy L. Clough, Jr., whose many provocative model designs have appeared in our pages, will be glad to learn that Roy has an interesting feature in the November 1954 issue of Astounding Science Fiction (also published by Street & Smith Publications—100 years old next year!). It's entitled "It Didn't Come From Mars!"

Pair of happy, sunburned contestgoers there at lower right: Bobby Benson (left) whose Mutual program is heard three times each week coast to coast (Songs of the B-Bar-B) and Allen King of Australia. Allen received the Bobby Benson Trophy at the last National Championship model airplane meet for being the contestant from the most distant point—Australia. Mr. King competed in the modelplane "Nats" after winning the Lord Wakefield rubber-powered model competition earlier at Southampton, Long Island.

We plan to expand our "Hobby Contest Calendar" during the coming year to include all types of modeling contests, special exhibitions and so on. So keep your eye on it each month for coming events of special interest to you. And again we remind club secretaries that we need notices of your meets at least 90 days in advance to include them in HCC in time to do anyone any good. Send info on exhibitions, competitions and special events to Hobby Club Calendar, Air Trails Hobbies, 304 E. 45th St., New York 17, N. Y.

And don't forget to send in nominations for your "Hobby Dealer of the Month" for inclusion here. Let's give these gentlemen credit, too!

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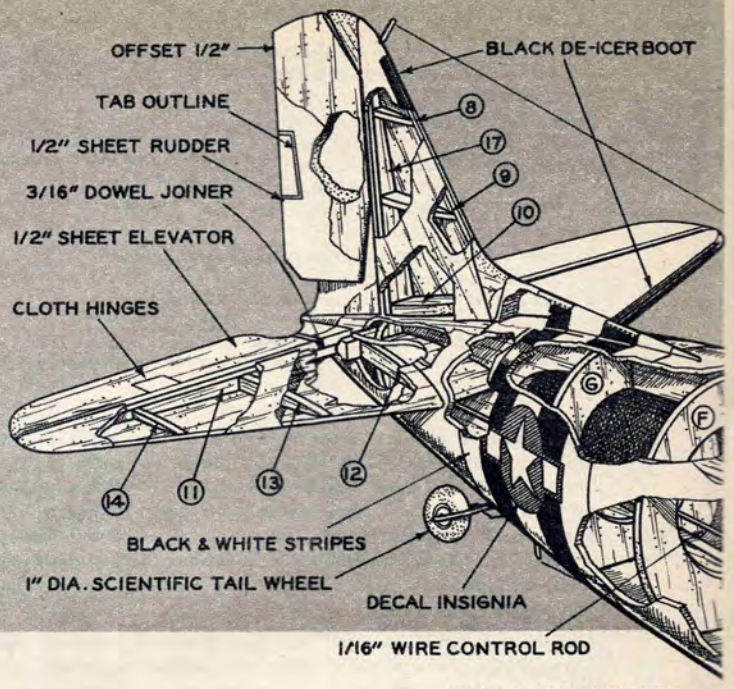
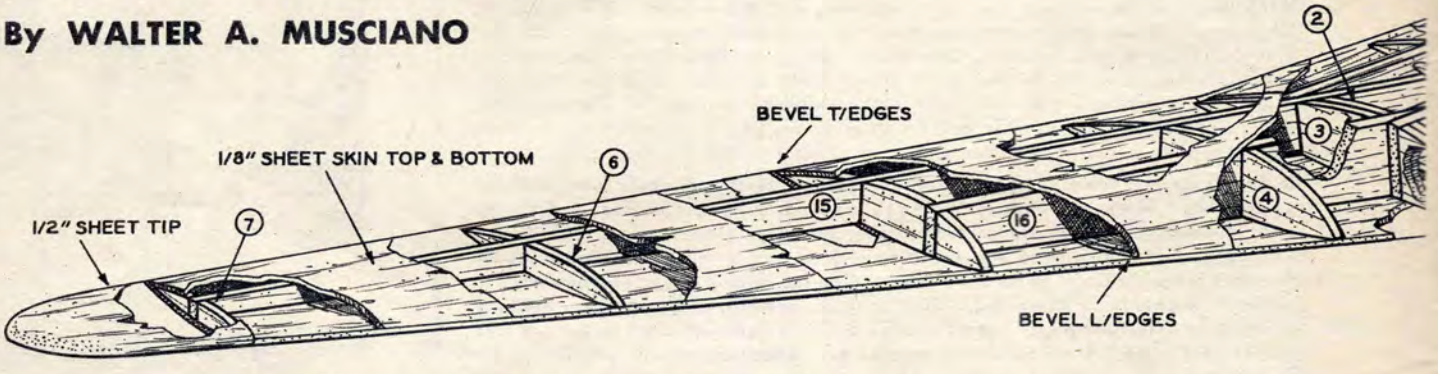
The model in full dress. WW II invasion stripes and the AAF stars are easily applied decorations which provide a colorful craft. Airline markings can be substituted if desired.



By WALTER A. MUSCIANO



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The 10,691 commercial and military versions built varied in weight from 23,624 lbs. to 34,162 lbs., in speed from 206 mph to 230 mph, and in power from a total of 1,800 hp to 2,400 hp. Operating best at levels between 10,000 and 14,000 feet, this "work horse" could easily climb to 20,000 feet.

With the advent of WW II the DC-3 was given many military duties. It hauled gliders and carried paratroopers over every front, it dropped food and ammunition to surrounded troops, it ferried supplies to the various battlefronts. Carrying important military personnel as well as U.S.O. entertainers and mail were among this plane's varied duties.

The DC-3 bore numerous military designations. Christened the R4D by the Navy and Marines, the DC-3 was called C-41a, C-47A to D, C-48 to C-48C, C-49 to C-49K, C-50 to C-50D, C-51, C-52 to C-52C, C-53 to C-53D, and C-117A by the A.A.F. and the Air Force. Those aircraft fitted for paratroopers were called "Skytroopers."

Before we describe our ½ in. to 1 ft. scale control line model of this famous plane we would like to thank "Red" Rehfield and Don Black of Douglas Air-

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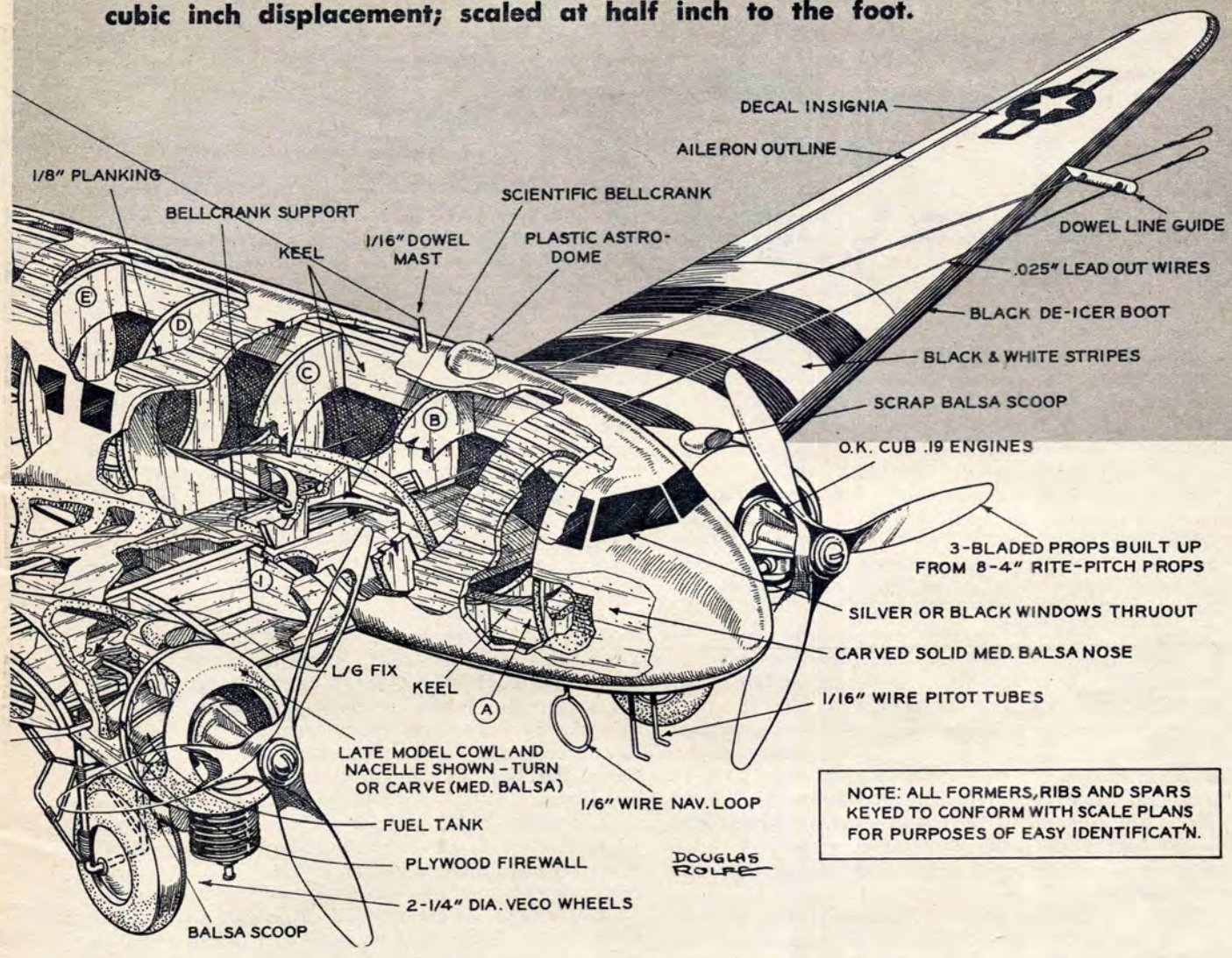
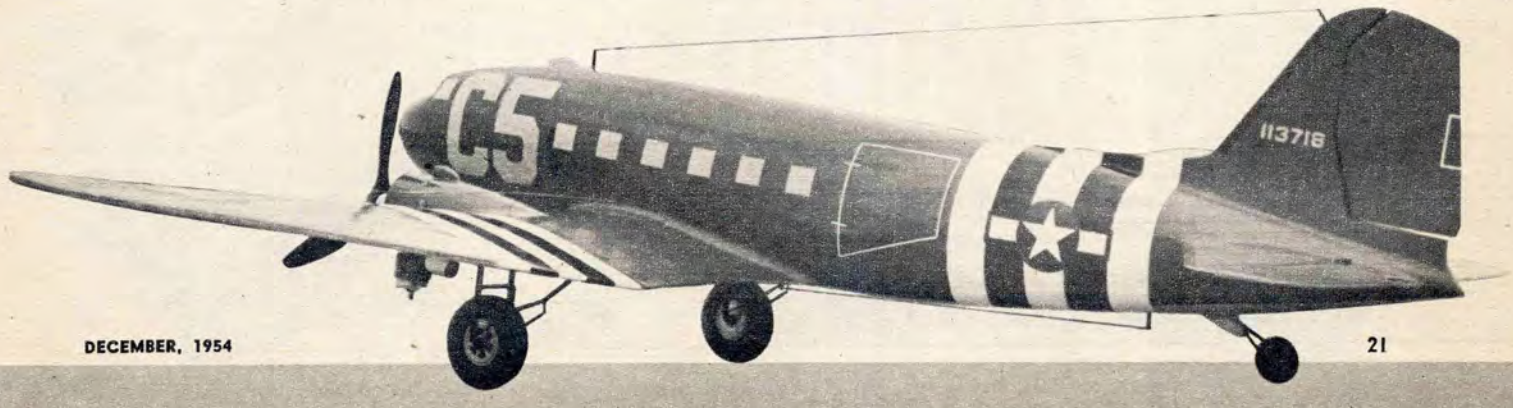


craft Company for their kind cooperation that made this model possible.

Any two engines of from .14 to .23 cubic inch displacement can be successfully installed in our model C-47. These powerplants can be installed inverted, upright or in pancake fashion, either beam or bulkhead mounted. We used O.K. Cub .19 engines and these powered the model in a most realistic manner. When either engine stops the craft does not drop sharply but can actually sustain flight if it is "led" slightly by the flyer.

Despite the four-foot wingspan the model does not appear cumbersome and therefore we felt it was not necessary to install removable wings, etc.

This craft is no harder to construct than the conventional single-engine scale control liner. The first item to make is the center section of the wing. Trace the ribs onto the sheet balsa and cut them to shape with a single-edge razor blade. Now, cut the spars to the correct size. The center section covering should be cut to shape from sheet balsa. It will be necessary to butt-join at least three sheets of balsa to form the correct wing chord. Cement the two spars to the lower covering, followed by the ribs. Do not neglect



With ballast replacing engines, Douglas craft became the CG-17, a troop carrying glider for towing by another C-47. Test pilots declared it one of stablest gliders!

Later C-47's delivered to Air Force were recognizable by unpainted surfaces. This is an Air Transport Command craft. ATC was succeeded by the present well-known MATS.

to allow a space for the outer wing spar stubs which slide in place later. The covering is held to the spars and ribs with straight pins until the cement is dry.

Bend the ⅛" landing gear to shape with pliers. Each main gear is bent in one piece. The ends meet in the wheel hub. Install the wheel and then bend the 1/16" wire strut in the shape of a fork and bind and solder it to the main gear. The landing gear is attached to the center section by means of a plywood sandwich. Note that these plywood pieces are not of the same width because of the lower camber of the wing.

Cement the main landing gear strut between the plywood and clamp together until dry. Cement this assembly firmly to the lower covering and forward spar. Plenty of the adhesive should be used in order to insure a secure installation. It will be found that it is necessary to cut two ⅛" wide notches in the covering in order to allow the landing gear strut to fit in its proper location. The auxiliary 1/16" strut should not be firmly attached to the wing but should merely pierce the lower covering in order to be able to move when the main gear flexes during take-offs and landings.

While the landing gear installation is drying thoroughly, the upper covering should be prepared. Bevel the leading and trailing edges of the lower covering so as to fair with the rib upper camber. Cement the covering to the front spar, holding in place with pins. Apply plenty of cement to the ribs, spar and bevel on the after end of the center section and cement the covering to it, again holding in place with pins until dry. Repeat this for the forward portion of the center section.

Trace and cut the keel and formers to shape from sheet balsa and firmly cement the keel to the exact center of the center section. When cutting the keel make certain that the notches for the stabilizer, wing and bellcrank are cut out as shown. The first two must be done very accurately in view of the fact that the wing and tail angles of incidence depend on these cut-outs. Cement the fuselage formers to the keel at this time.

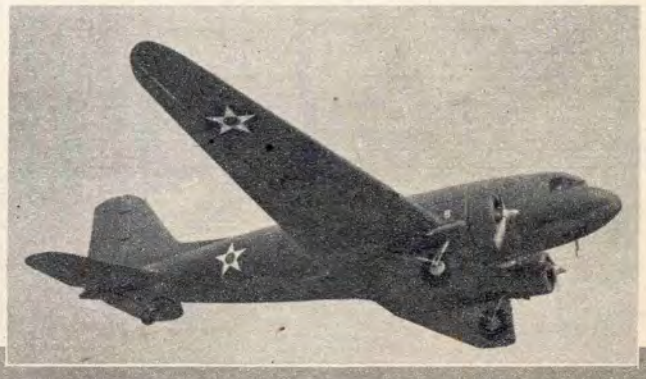
The stabilizer should now be constructed. After all of the ribs and the spar have been cut out the ribs are cemented to the spar. While this is drying the covering should be cut to shape. First cement both the upper and lower covering to the spar. This is followed by cementing the coverings, one at a time, to the ribs and to each other at the leading edge. Bevel the spar as shown to facilitate the elevator movement.

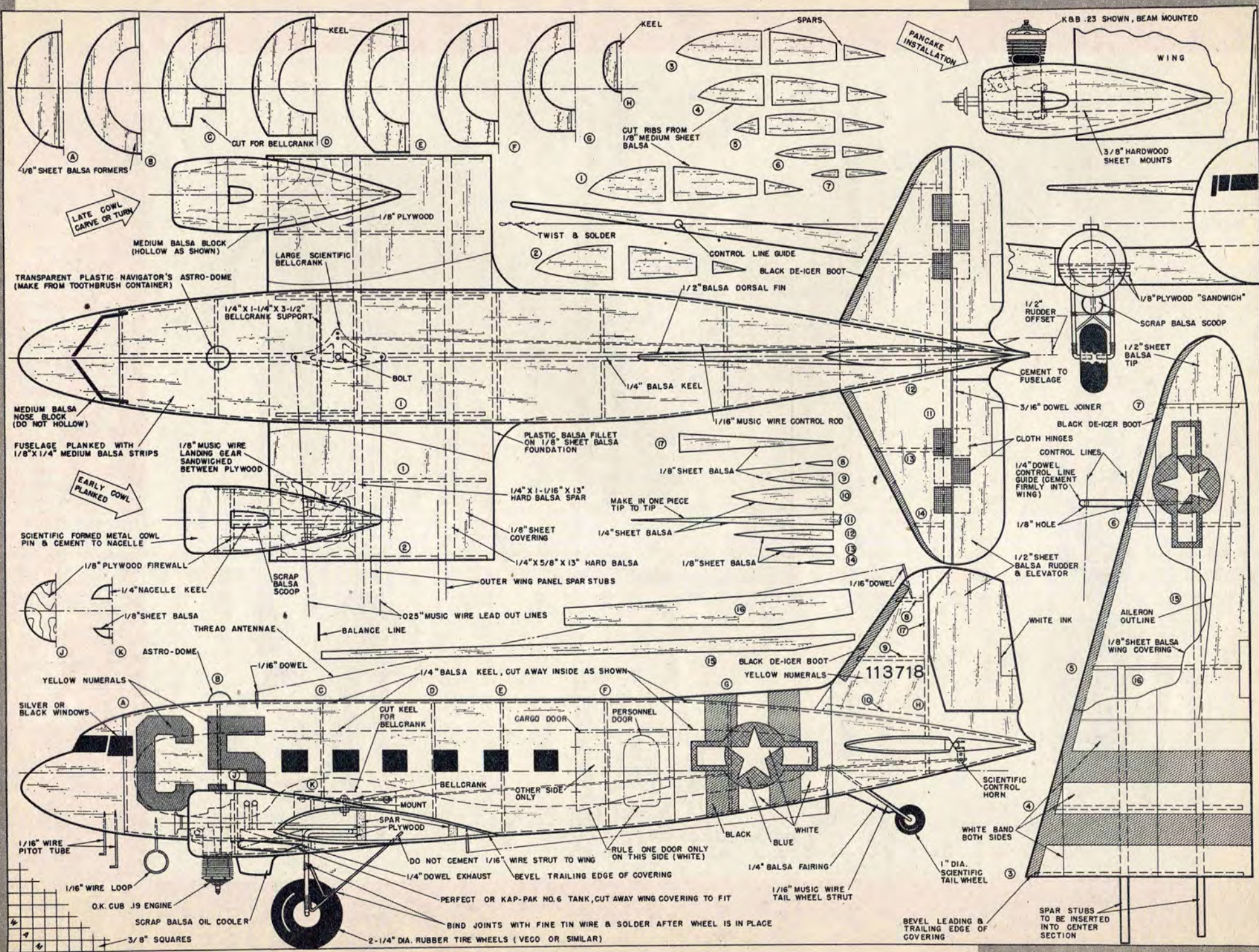
Solid sheet balsa is used for the elevator halves. After these are cut to outline shape with a coping saw they should be carved and sanded to a streamline shape. Now, carefully cut a groove into the leading portion of the elevators to accommodate the dowel joiner. This joiner must be cemented to the elevators very securely, since much depends upon it. When thoroughly dry firmly fasten the commercial control horn to the dowel joiner. Join the elevator assembly to the stabilizer by means of cloth or other hinges.

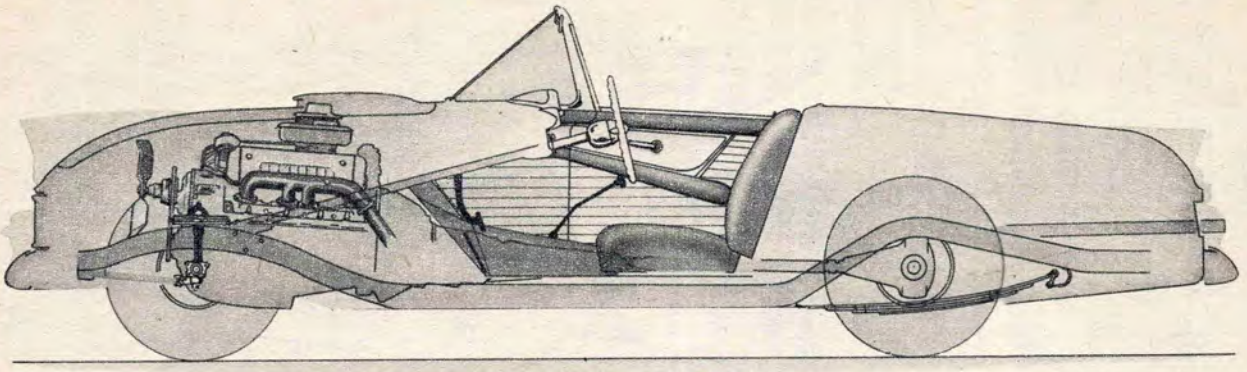
Complete construction details are available on the full-size plans.

President Eisenhower listed the C-47 as one of the four major weapons of WW II! Walt's control line scale model is one you will want to add to your fleet. Now's the time to start work.

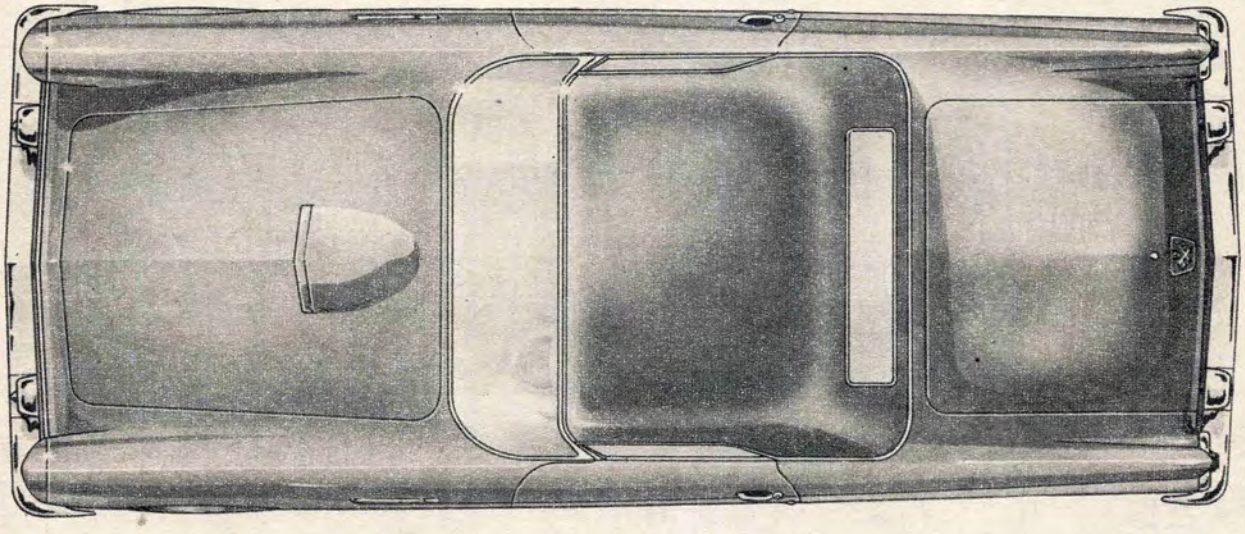
Fitted with special doors and jumping equipment, the Douglas became C-53 paratrooper transport of the Army's air arm (below). Painted surfaces and insignia design mark this as early job.



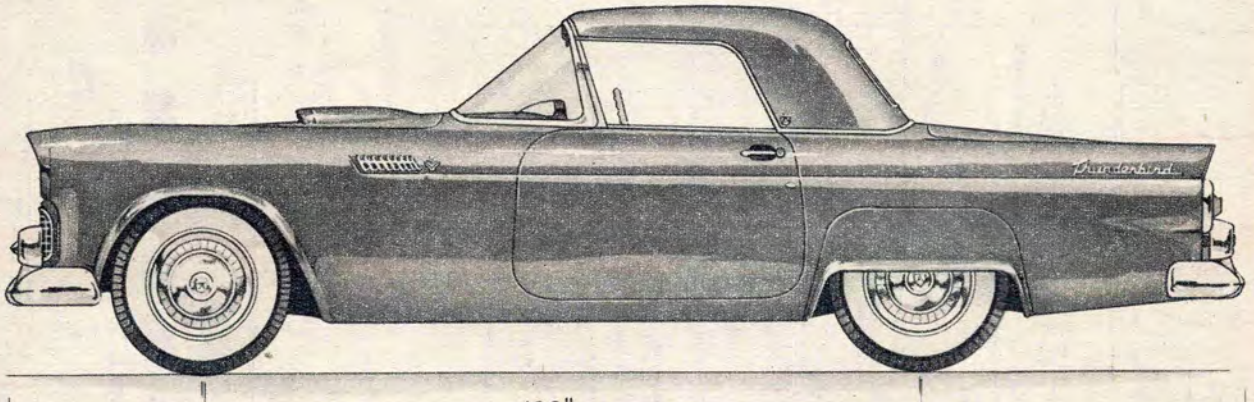

KEEL
SPARS
PANCAKE INSTALLATION
K&B .23 SHOWN, BEAM MOUNTED
WING
3/8" HARDWOOD SHEET MOUNTS
1/8" SHEET BALSA FORMERS
CUT FOR BELLCRANK
CUT RIBS FROM 1/8" MEDIUM SHEET BALSA
LATE COWL CARVE OR TURN
1/8" PLYWOOD
MEDIUM BALSA BLOCK (HOLLOW AS SHOWN)
TWIST & SOLDER
CONTROL LINE GUIDE
BLACK DE-ICER BOOT
LARGE SCIENTIFIC BELLCRANK
TRANSPARENT PLASTIC NAVIGATOR'S ASTRO-DOME (MAKE FROM TOOTHBRUSH CONTAINER)
1/2" BALSA DORSAL FIN
1/4" X 1-1/4" X 3-1/2" BELLCRANK SUPPORT
1/8" PLYWOOD "SANDWICH"
1/2" RUDDER OFFSET
SCRAP BALSA SCOOP
BOLT
1/4" BALSA KEEL
1/2" SHEET BALSA TIP
CEMENT TO FUSELAGE
MEDIUM BALSA NOSE BLOCK (DO NOT HOLLOW)
1/16" MUSIC WIRE CONTROL ROD
3/16" DOWEL JOINER
BLACK DE-ICER BOOT
FUSELAGE PLANKED WITH 1/8" X 1/4" MEDIUM BALSA STRIPS
PLASTIC BALSA FILLET ON 1/8" SHEET BALSA FOUNDATION
CLOTH HINGES
CONTROL LINES
1/8" MUSIC WIRE LANDING GEAR SANDWICHED BETWEEN PLYWOOD
1/8" SHEET BALSA
1/4" DOWEL CONTROL LINE GUIDE (CEMENT FIRMLY INTO WING)
EARLY COWL PLANKED
1/4" X 1-1/16" X 13" HARD BALSA SPAR
MAKE IN ONE PIECE TIP TO TIP
1/8" HOLE
SCIENTIFIC FORMED METAL COWL PIN & CEMENT TO NACELLE
1/8" SHEET COVERING
1/4" SHEET BALSA
1/2" SHEET BALSA RUDDER & ELEVATOR
1/8" PLYWOOD FIREWALL
1/4" X 5/8" X 13" HARD BALSA
1/8" SHEET BALSA
SCRAP BALSA SCOOP
OUTER WING PANEL SPAR STUBS
1/16" DOWEL
1/4" NACELLE KEEL
1/8" SHEET BALSA
.025" MUSIC WIRE LEAD OUT LINES
WHITE INK
AILERON OUTLINE
THREAD ANTENNAE
BALANCE LINE
1/8" SHEET BALSA WING COVERING
ASTRO-DOME
1/16" DOWEL
BLACK DE-ICER BOOT
YELLOW NUMERALS
1/4" BALSA KEEL, CUT AWAY INSIDE AS SHOWN
YELLOW NUMERALS
113718
SILVER OR BLACK WINDOWS
CUT KEEL FOR BELLCRANK
CARGO DOOR
PERSONNEL DOOR
SCIENTIFIC CONTROL HORN
BELLCRANK
OTHER SIDE ONLY
MOUNT
SPAR PLYWOOD
WHITE BAND BOTH SIDES
1/16" WIRE PITOT TUBE
BLACK
BLUE
WHITE
RULE ONE DOOR ONLY ON THIS SIDE (WHITE)
DO NOT CEMENT 1/16" WIRE STRUT TO WING
1/4" BALSA FAIRING
1" DIA. SCIENTIFIC TAIL WHEEL
1/4" DOWEL EXHAUST
BEVEL TRAILING EDGE OF COVERING
1/16" WIRE LOOP
1/16" MUSIC WIRE TAIL WHEEL STRUT
PERFECT OR KAP-PAK NO. 6 TANK, CUT AWAY WING COVERING TO FIT
O.K. CUB .19 ENGINE
BIND JOINTS WITH FINE TIN WIRE & SOLDER AFTER WHEEL IS IN PLACE
SCRAP BALSA OIL COOLER
BEVEL LEADING & TRAILING EDGE OF COVERING
SPAR STUBS TO BE INSERTED INTO CENTER SECTION
3/8" SQUARES
2-1/4" DIA. RUBBER TIRE WHEELS (VECO OR SIMILAR)



LONGITUDINAL SECTION AT CENTER LINE



A B C D E F G H

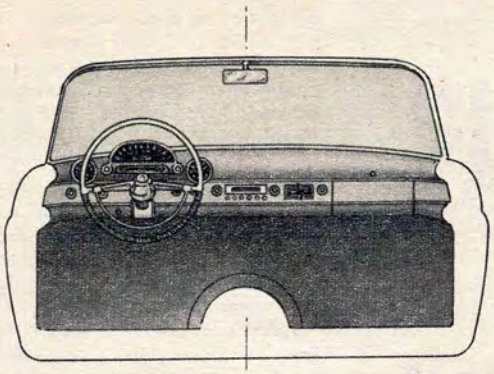


102"

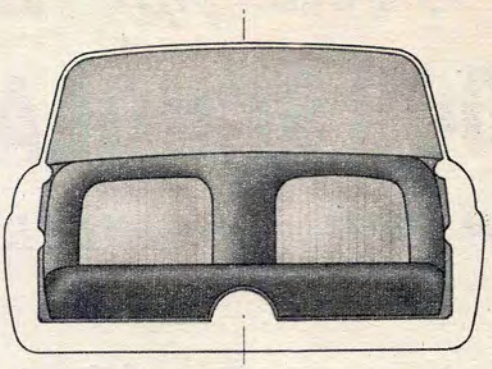
175.2" O.A.

SCALE VIEWS BY JEFFERIES

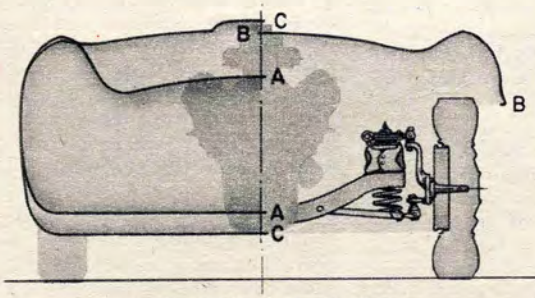
Ford "Thunderbird"



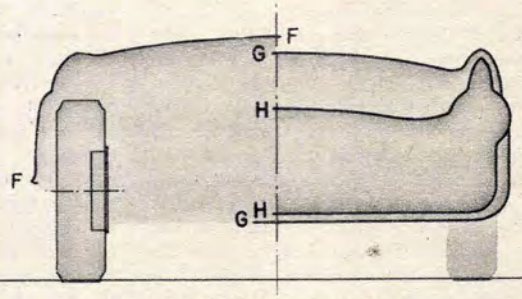
SECTION D
CONROL PANEL



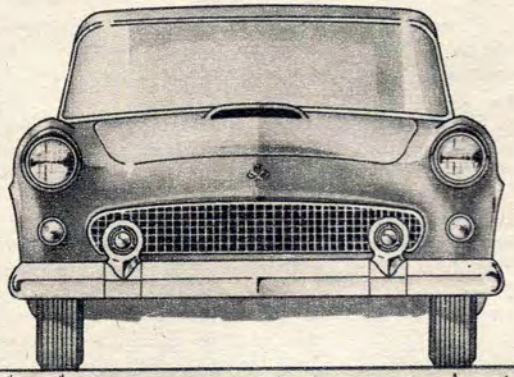
SECTION E



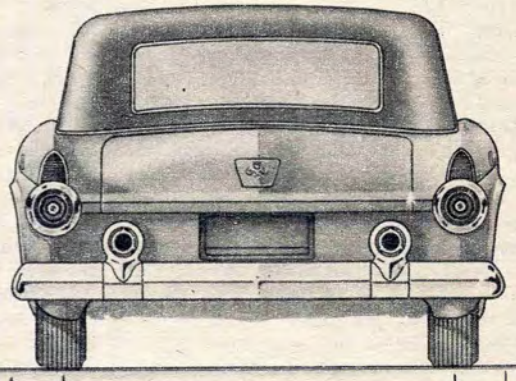
SECTIONS A, B & C



SECTIONS F, G & H



56"
70.1" OA



56"
70.1" OA

■ Soon after World War II the American public rediscovered the thrill of sportscar driving. But the fairly large group of enthusiasts had to turn to Europe to satisfy its desire because the U. S. automobile manufacturers were not producing this type of car. Today, however, they are doing just that, with their own designs.

The latest of this type is the Ford Thunderbird, which recently became available. Though the rabid sportscar driver may consider it somewhat "fancy" because of luxury features, the Thunderbird has many aspects of a true sportscar such as an extremely rigid frame, ball-joint independent front suspension, quick steering and telescopically adjustable steering wheel. On the luxury side it has roll-up windows, which together with the rayon fabric top assure comfort in bad weather. Available also is a Fiberglas hard top for those who prefer a coupé, as well as power-operated windows, four-way power adjustable seat, and booster brakes. Instrument panel carries all standard gauges with the addition of a 5000 rpm tachometer and sweep-second hand clock. The Thunderbird is powered with a specially developed V-8, overhead valve engine rated at better than 160 hp. Weight is around 3200 lbs. Body is all-steel construction.

COULD *You* USE A $1,000 SCHOLARSHIP IN CIVIL ENGINEERING?

The American Institute of Steel Construction offers TEN of them, with architectural engineering included (your choice), and all good at 131 American colleges

■ A model builder did it!

One of the ten winners of this year's thousand-dollar A. I. S. C. scholarship awards in civil engineering was Richard A. Rosenthal, of Newark, N. J. An active modelplane fan since the age of six, he placed fourth in Carrier (Jr.) at the 1953 Nationals, and fourth in the same event (all age groups combined) at the N. Y. *Mirror* Model Flying Fair held earlier that summer. Though Carrier was his true love, he also went in for Team Racing. As a mainstay of the Hillside Aero Nuts, he helped run this Jersey club's rugged Polar Bear Meet in January, and at the time of leaving for school in September was its treasurer. A real gone model man.

When Richard was going on 15, his interest in all kinds of construction—bridges and dams hit him hard—crystallized into the desire to be an engineer. Today he is attending Massachusetts Institute of Technology, holder of a four-year scholarship. One of the items he listed under "extra-curricular" activities in his application for the scholarship was his model career. The potential affinity between modeling and engineering (devotees of both often say "Why?" and "Let's build it!") is not exactly news, but we would like to salute our regular reader and fellow hobbyist anyway.

And it could happen to you.

The A.I.S.C. stands for American Institute of Steel Construction. This is the trade association of the steel fabricators of the U.S., who do not manufacture steel but make structural steel shapes such as used in buildings and bridges, like I-beams. There are nearly 300 such member companies of the Institute, scattered all over the country, and each of them has the privilege of nominating two candidates each year for a national competition in which ten winners are selected to receive a $1,000 scholarship apiece in civil or architectural engineering at any accredited American college of their choice which offers such courses.

In addition, the companies try to furnish their winning candidate (not more than one winner allowed to a company) with a job during his summer college vacations. In the case of students taking the cooperative engineering course (part-classroom and part-practical work), they try to give the practical employment required, at wages.

There are no strings of any kind. The companies do not make you promise to work for them after graduation, or in the steel industry. You do *not* have to be an employee or dependent of an employee of one of the companies to be considered for the scholarship. Nor do these firms say you can't hold any other scholarships along with theirs.

In fact, this year Donald Shurilla, in addition to winning one of the ten national A.I.S.C. awards, also won another $1,000 local memorial foundation scholarship given by the same company that sponsored him for the Institute scholarship—Lehigh Structural Steel. (Since the foundation scholarship was good only at the University of Cincinnati, he chose that school also for the one awarded by the Institute.) However, the additional scholarships may be of any kind.

Furthermore, the member companies may even decide to help you along with their own contribution—one firm this year *matched* the regular amount received by its successful candidate—another $1,000!

The 1955 A.I.S.C. program is coming up. The time to get your wheels rolling is now. Although the final date for the companies to hand in candidates' names is around the middle of April, there are things for *you* to learn, contacts to make, and steps to take considerably before then.

From the assembled files on all candidates, the Institute's Committee for Education at headquarters in New York City makes the final selection of the ten national winners. The factors on which it bases its selection are as follows: scores on tests given by the College Entrance Examination Board; high school (or secondary school) record and evaluation by its principal (including extra-curricular activities both in school and outside); a brief essay on the subject "Why I Want to Be an Engineer"; financial condition; and status as a company employee or dependent of an employee.

Let's consider that last-named factor first. As stated, you do *not* have to be an employee or relative of an employee in the sponsoring company in order to win. Any boy (or girl) is eligible who has the proper high school credits to be admitted as a Freshman to the Fall, 1955, term of one of the 131 colleges listed. The "status as company employee" may have a bearing on the choosing of candidates by individual companies in a comparatively small number of cases; each company has the privilege of making its own rules in regard to such selection. Thus, the status factor is included among those used by the Committee. However, the records show that 98 percent or more of winners are neither employees nor their relatives. And this year, not a single one of the winners fell into that category. The national committee considers each candidate strictly on his ratings.

Richard Rosenthal used to fill the air in the vicinity of his home with the sound of a model engine being tested, been asked by the cop on the beat what the noise was all about—only to have the Law himself get interested in that little contraption . . . Has this ever happened to you?

Now, about those tests. The College Entrance Examination Board tests, as you know, are used by all kinds of institutions of higher learning. The ones you must take for this scholarship are a Scholastic Aptitude Test (Verbal and Mathematical Sections), an Achievement test (Intermediate Mathematics—or Advanced if this is an entrance requirement of your first or second choice college), and an Aptitude Test (Spatial Relations).

The College Board Tests are given in a number of Examination Centers scattered over the country, and at various set dates. The two optional dates that will concern you are March 12 and May 21.

AMONG THIS YEAR'S WINNERS:

Left: Donald R. Iltis of Mitchell, S.D. (Mitchell Senior High School). He's going to South Dakota School of Mines and Technology. At right: Norman R. Mahan, Tulsa, Okla. (Will Rogers H.S.) Norman chose Rice Institute located in Houston, Tex. Program is nationwide.

1955. However, it should be noted that you must register for these exams a goodly time in advance (by February 9 and April 30, 1955, respectively). Most candidates take the May exams.

All this is explained in more detail in the scholarship rules pamphlet available from the sponsoring companies. They, or your school guidance counselor, will also have the helpful Bulletin of Information prepared by the College Board testing service, which not only lists all the Examination Centers and facts on how to take the tests, but gives you sample questions as well.

The essay on why you want to be an engineer must be in your own handwriting and not over 200 words long.

As to your high school record and evaluation, forms to be filled out will be sent to your principal by the Committee as soon as it is notified by the sponsoring company that you are one of its candidates. The same holds true concerning your financial condition, the form in this case being mailed to your parents.

Richard also built model boats, both motor and sail. He has watched in dismay as a new job, of which great performance was expected, sank below the surface of the lake, motor and all . . . Have you ever had this experience?

The rules pamphlet mentioned also lists the colleges from which you may choose the one you want to attend. These are the schools with civil or architectural engineering courses that have been accredited by the Engineers' Council for Professional Development—the national accrediting body for engineering colleges designated by the U.S. Office of Education. There are 131 of these schools—Cornell, Yale, M.I.T., Northwestern, California Tech, Texas A. & M., Ohio State, Wisconsin, V.M.I.—in other words, any recognized U.S. school with engineering courses.

This listing on the back of the rules pamphlet also tells you which colleges operate under the cooperative, or volunteer cooperative plan (there are 16), which ones have electives in military or naval sciences (R.O.T.C. etc.), and which ones offer a degree in architectural engineering besides that in civil engineering.

If you've been wondering what architectural engineering is all about, it might be said that the course is essentially the same as the one for civil, except that you specialize in building construction and structural engineering—you don't take as much surveying, hydraulics and the like. However, the same kinds of jobs are open to both types of engineers, with the archcitectural man likely getting the preference in the building and structural field.

But how do you get sponsored in the first place? An excellent question, for the answer contains the starting point of the whole race for you—the individual companies. The companies try to publicize the Institute's scholarship program in their areas, but many high school students have never heard of it. For various reasons it may not have come to the attention of the school principal, or guidance counselor.

Your initial step is to get your name before the steel fabricator member company that has the privilege of naming candidates. Tell your high school principal you're interested, for he is invited to send in names of likely candidates in your area. In some cases the fabricators in a given section may work in conjunction with an overall-jurisdiction board of education, resulting in a sort of city-wide or state-wide preliminary competition to choose nominees for the companies to sponsor; your principal would know about this. Sometimes, local fraternal orders are of value in passing along the word to the company that you are a good prospect.

The four main qualifications that you must meet to be considered as a candidate by the fabricating companies are as follows: (1) you must be interested in civil engineering as a career; (2) you must show evidence that you can carry the scholastic load pertaining to this type of work; (3) you should have participated in extra-curricular activities during your high-school course; and (4) you should be able to appreciate financial assistance.

When Richard left for M.I.T., he admonished his mother about the closet in his room containing broken modelplanes and parts and known as "the Graveyard." The admonition: "Now please don't touch a thing!" . . . Have you ever had occasion to speak to members of your family on this matter?

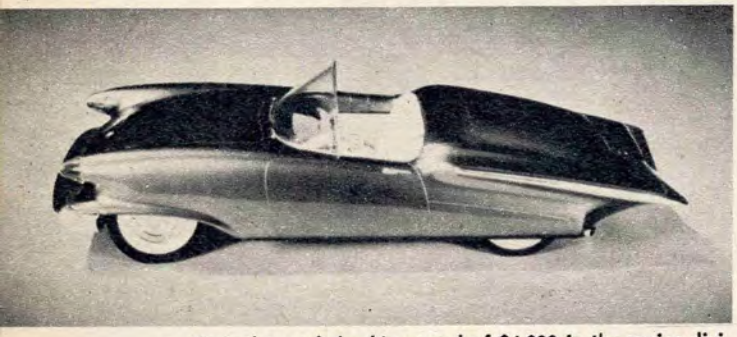
Briefly, let's look at "extra-curricular activities," whether at school in addition to your studies or at home in your private life. There are, of course no set rules in regard to these, no special "must" activities. In its final evaluation the Committee in New York seeks to learn if you are interested in the life around you, a doer, if you are inclined to mix with people, take part in group activities —to translate both your energy and curiosity into worthwhile action. And whatever your (*Continued on page* 61)

RENSSELAER POLYTECHNIC INSTITUTE

Left: Gard Meddaugh of Oakland, Calif. (Fremont H.S.). Attending University of California at Berkeley. At right: Richard A. Rosenthal, Newark, N.J. His high school was Weequahic, and the college is Massachusetts Institute of Technology. The A.I.S.C. awards started in 1950.

Smile on the left belongs to Edwin H. Schoen, Brooklyn, N.Y. (Midwood H.S.) He decided on Rensselaer Polytechnic Institute, represented in the campus scene above. . . . Smiling at right is Donald J. Shurilla, Allentown, Pa. (Allentown High.) He won an additional $1,000.

Awards valued at $420,500 have been handed out to 131 master model builders. And it's fun!

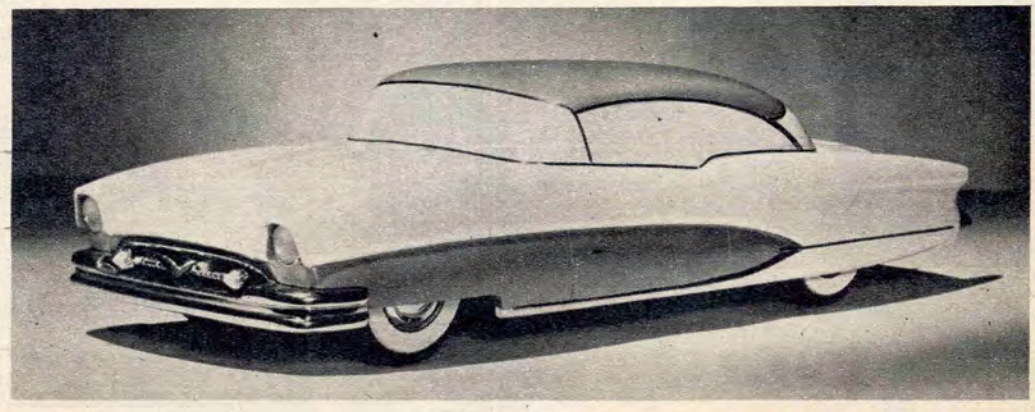


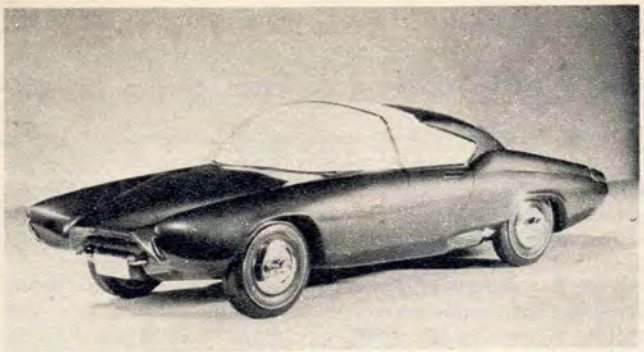
First place scholarship award of $4,000 in the senior division taken by this convertible entered by Gary A. Graham, Bellingham, Wash. (left, top of page). Long-time model-plane contest flyer, he's won more than 20 trophies and other plane awards. He spent as much time designing this car as he did building it. Gary's bass wood model is his fourth entry to win regional top honors. Gary now attends Western Washington College of Education. He hopes to become an architectural engineer or industrial designer. James E. Goodman, GM's general manager, in center.

University Scholarships Go To Top Car Modelers

■ Since the Fisher Body Craftsman's Guild was created in 1930 more than 3,500,000 young fellows from 12 through 19 have competed for almost half a million dollars in cash awards and college scholarships. This year $90,000 was awarded in the form of 686 "state" prizes, 40 "regional" prizes and 8 university scholarships. Formed to encourage young men in a study of the crafts, the Guild offers gratis membership to any fellow 12 through 19. With your membership card you receive a lapel emblem and manual of instructions on how to enter the 1955 auto designing-model building competition. Members receive periodically the "Guildsman" publication. Information and applications may be secured from Fisher Body Craftsman's Guild, General Motors Building, Detroit 2, Mich.

First place award of $4,000 in the junior division went to this sedan built by James C. Fry, Clinton, Ill., a previous regional winner (right, above). James is aiming for an automobile designing career. After making a clay model he transferred his design to a block of laminated poplar wood using a block plane and spoke shave. Moldings, bumpers, grille and headlight housings were made from sheet brass and polished with emery cloth to a bright finish.

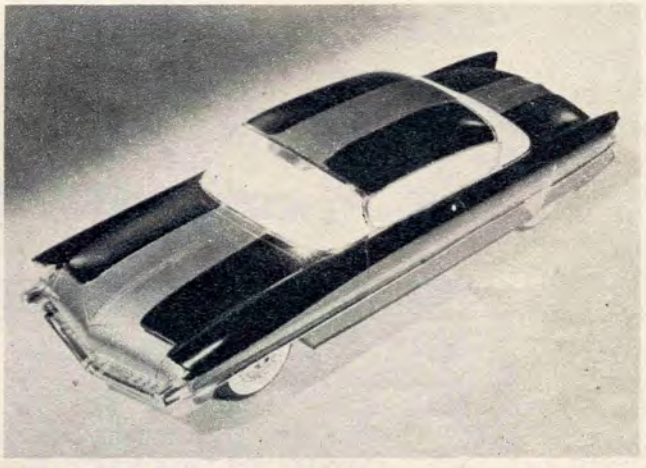




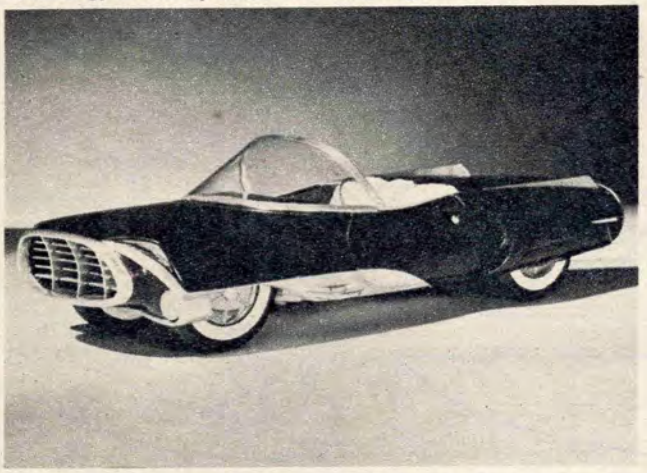
Second place junior prize ($3,000) was awarded to Charles Pelly, Los Angeles, for this sleek entry. This was Charles' first attempt in the Fisher Body competition. He says designing the car was the most interesting part of the project. From final sketch he made a set of templates for a clay model. When the clay model was accurately shaped Charles applied a coat of rubber mold material and plaster on the outside. After the model was cast he went to work with sandpaper to give it a smooth finish for painting. Trim work was brass; window moldings were model RR track.

Second senior scholarship of $3,000 was won by William C. Bailey, Dallas, with this 2-door hardtop. He entered the Craftsman's Guild in '50 and won a 1st in state judging. With the money he purchased tools to build more models. William carved his model from laminated poplar wood using gauges, chisels and files. The model was finished with 180 to 320 grit sandpaper and painted. Wheel discs and hub caps were made on a lathe; back wheels are attached by screws; the front wheels are mounted on an axle. Bill has just entered Kansas State College.

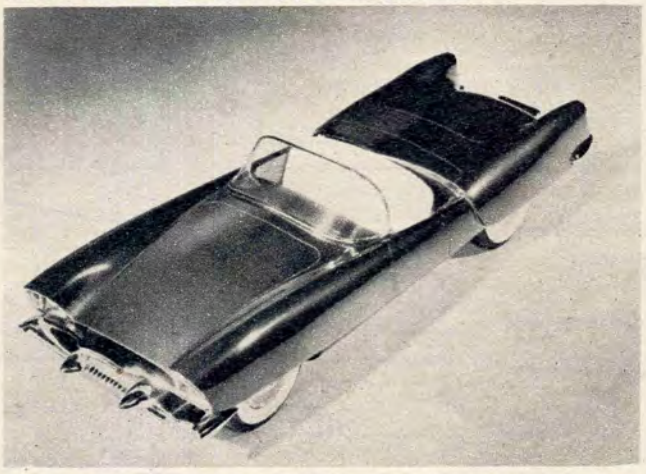
More than 100 preliminary sketches and almost 600 hours of working time were put in by Stanley F. Denek of Detroit on this junior entry which placed third for a $2,000 award. Stanley carved his convertible from a piece of laminated white pine. Outline was traced on the block of wood, excess stock cut away with saw and chisel. After model was accurately shaped he made indentations for the chrome moldings; trim came from aluminum stock. Stan is a high school student; hopes to enter General Motors Institute of Technology and study automotive designing.



Fifty-six coats of finishing material were sprayed on this car by Aime DeReggi of Wilmington, Del., third-place winner in the senior division of a $2,000 scholarship. Made of white pine, this car, when sanded, received 10 coats of sanding sealer, 35 coats of primer and 11 coats of lacquer! Each application was carefully sanded to avoid flaking or chipping. Aime, a long-time modelplane builder, came to America from France in 1947. He is a junior at the University of Delaware and is preparing for a career in engineering. Chrome on this car model is simulated by polished aluminum.



Winner of a $1,000 scholarship and 4th place in the junior section, John W. Bartley, Huntingdon Valley, Pa., sketched for nearly eight months before he came up with the final design for his entry. Construction took about 240 hours. From his drawings he prepared a clay model; from this he made templates and then roughed out the design in sugar pine with a hunting knife. The finer details were carved out with a very sharp X-acto knife and razor blades. All metal parts were cut from aluminum sheets, shaped, sanded with a wet emery cloth and polished.



An interest in sports cars prompted Jerry Sutton of Fresno, Cal., to enter this sleek convertible. Jerry, a student at Fresno State College, majoring in engineering, was awarded 4th in the senior division—a $1,000 scholarship. A piece of locust wood was rasped and filed to rough shape, then sanded. Final painting was with Titian Red lacquer. Last coat was rubbed down with pumice and polished with silver polish, then several coats of hard gloss wax added the finishing touch. Jerry's hobbies are swimming, hiking, fishing, archery, mathematics and physics.

Racing Raft

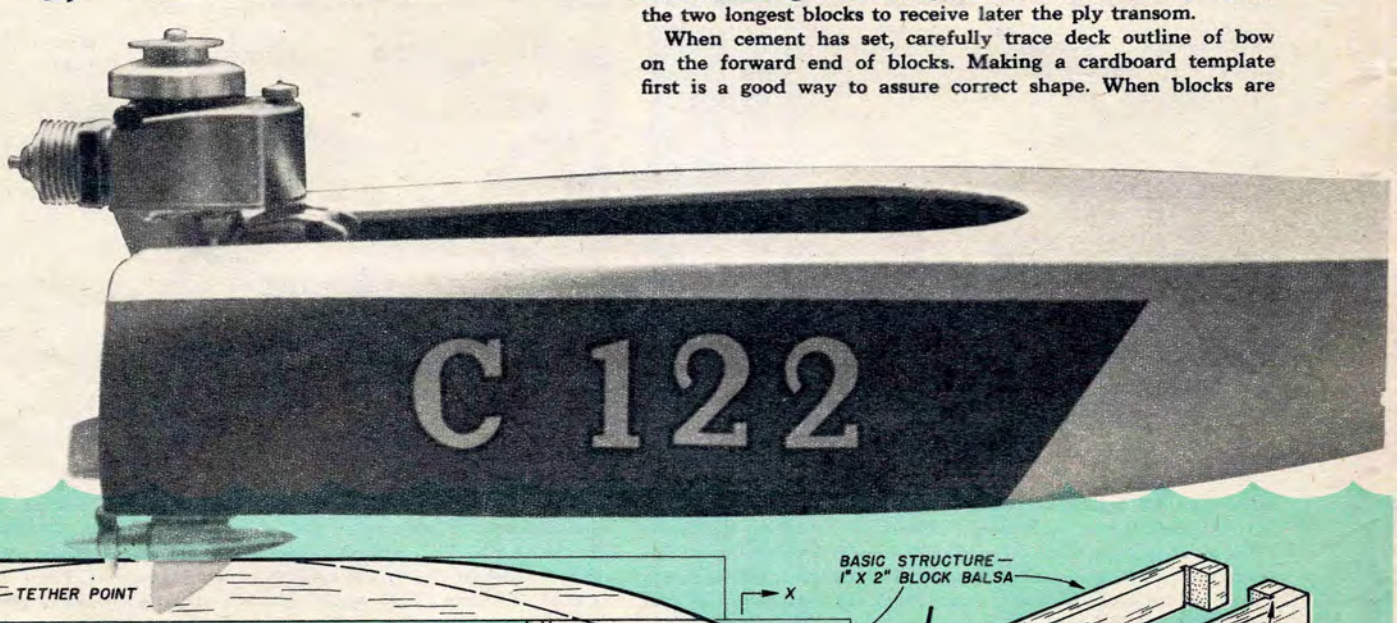
Well, not exactly "Kon-Tiki Junior," but a snappy little outboard from balsa blocks

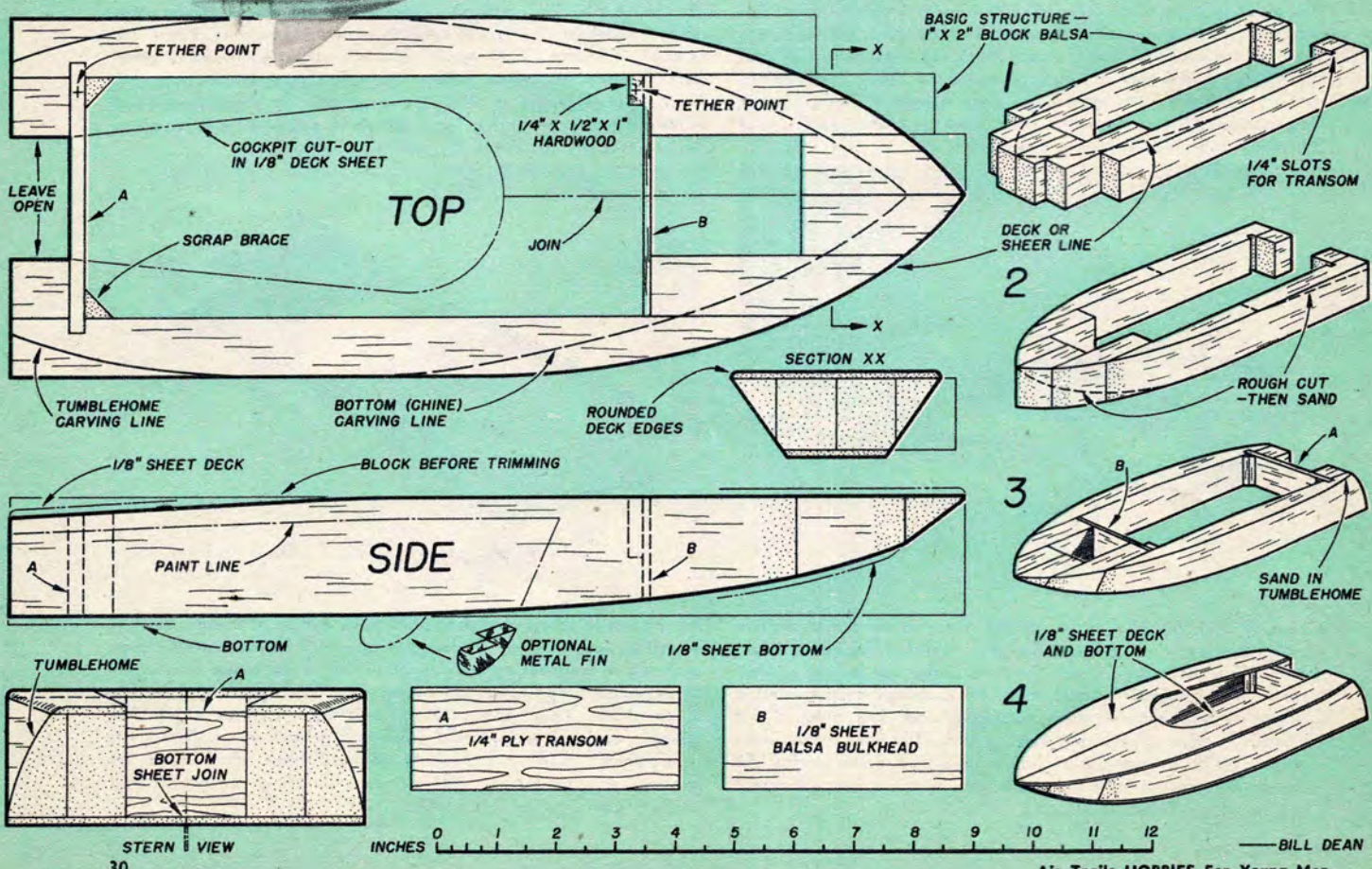
By BILL BAUGHMAN

■ Patterned after the full-size Racing Runabout so popular in outboard racing competition, our Racing Raft is a sturdy boat of fast, reliable performance. With one of the new Half-A outboard motors, good sport runs can be made, and tethered, it will be fast enough always to be a contender in the runabout division. The simple nature of construction will enable the builder to put the job together very quickly and still have a good-looking craft.

To save yourself the tedious work of enlarging the drawings published with this article, we suggest purchasing the full-size plans for this model from the plan service. When received, start by cutting the 1" x 2" balsa blocks at least to the measurements given on the plans. (These are minimum and a ¼" additional on each at the bow might make you feel better when cutting the basic shape.) Cement all six main blocks and the two small stern blocks together in the position shown, after notching out the two longest blocks to receive later the ply transom.

When cement has set, carefully trace deck outline of bow on the forward end of blocks. Making a cardboard template first is a good way to assure correct shape. When blocks are





marked, cut out bow shape with jigsaw, coping saw, or knife. Sand to smooth contour afterward.

Now rough-cut and sand the rise of the bow into the forward bottom of blocks and the 5/16" slope to the rear top of the blocks. Use large sheet of sandpaper on large wood block so whole area can be sanded at one time, assuring both sides of craft will be same. Check your results with plans carefully, as they determine later shape and function of boat.

From the plan and photos you will note that the forward bottom of the boat is not as wide as the deck line you previously cut and shaped. This is to give your finished craft better lines and performance. Using the cardboard template method, trace the outline shown to forward bottom of blocks, sand to shape.

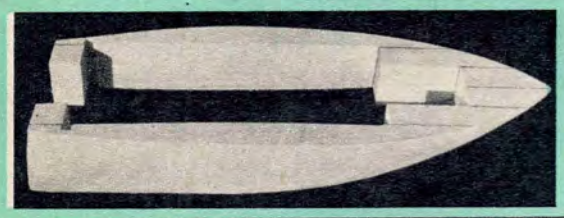
Going to the stern or rear again, sand-shape the sides to get the ¾" tumblehome at this point. Photos show clearly how boat is shaped at transom. The ¼" ply motor mount or transom can now be cut, fitted and cemented into place. Don't forget the scrap balsa braces. Then install the scrap ⅛" sheet piece that closes off the front buoyancy chamber. If you plan to run this model with a tether, the hardwood tether mount block should be cemented in place also.

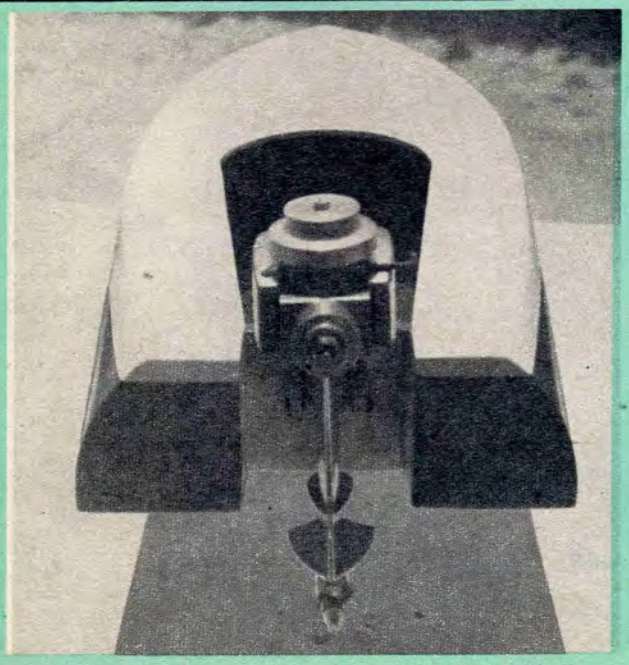
Bill of Materials

44" of 1" x 2" medium balsa (minimum). 1 sheet ⅛" x 36" x 4" medium balsa. 1 sheet ⅛" x 36" x 3" medium balsa. 1 piece scrap ¼" plywood, 1¾" x 4½". Fuel-proof cement, model sealer, and finish. Sandpaper, pins, knife, saw, razor blade, small brush.

Complete building details available on the full-size plans.

Full-size plans for Racing Raft are a part of Group Plan #1254, Hobby Helpers, 770 Hunts Point Avenue, N.Y.C. 59.





Transom, set forward of stern, gives this miniature Class C balance not found in many where motor is at rear.

Carrying Box for Speed Models

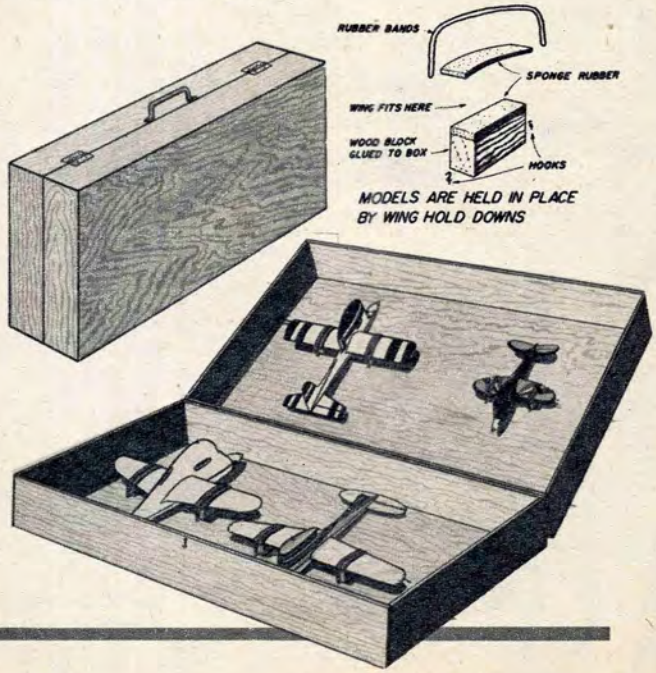
Those who have gone to contests loaded with models and spare parts will appreciate this portable hangar

■ This model carrying box is constructed from cheap "reject" quarter-inch plywood and is fastened together with small nails and glue. The finish consists of three coats of spar varnish which is hot fuel proof.

The hinges, latch, and handle can be easily purchased at the local ten-cents store. Basic design of the box is easily modified to carry jets, small free flight models or indoor jobs. It's built in one piece, and then sawed in two through the middle.

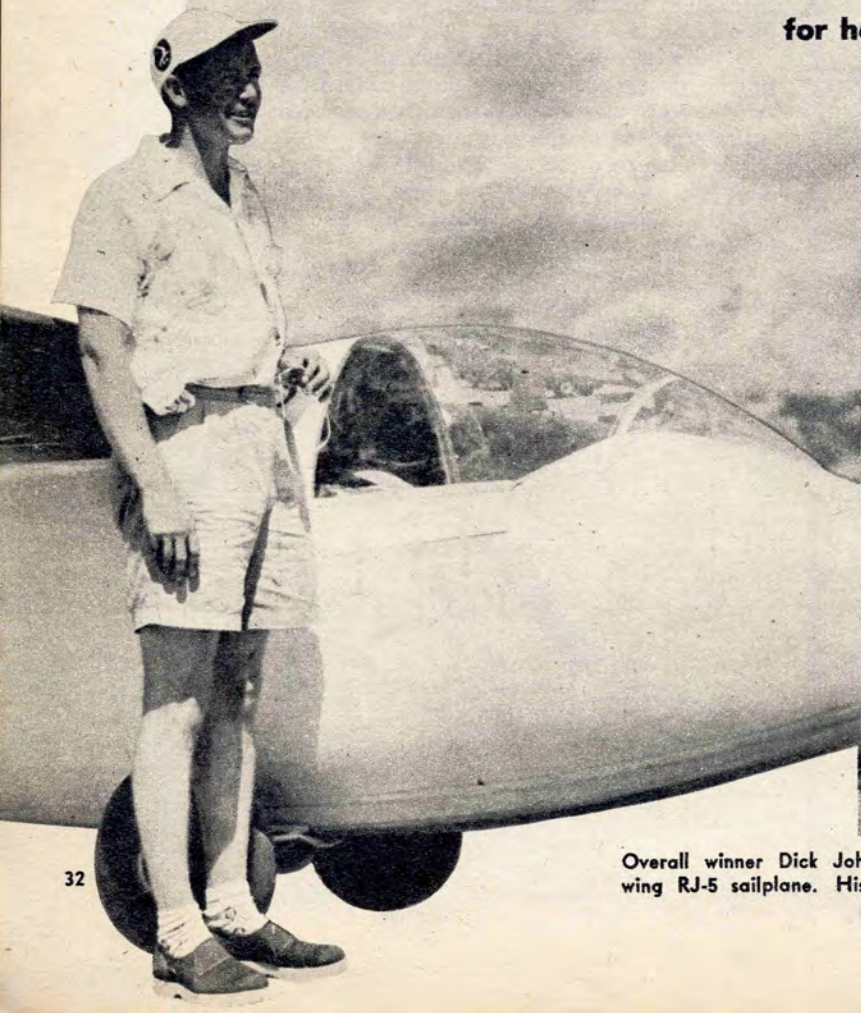
A 30"x20"x10" box will furnish ample space for four average-sized speed jobs consisting of ½A, A, B, and C classes. Dimensions may be altered to suit the needs of the builder.

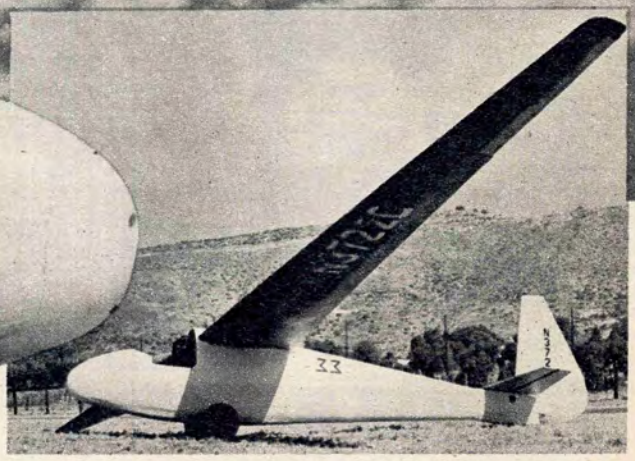
We sincerely believe you'll find that such a case will save considerable wear and tear on your models during transportation to and from the field.—*Earl L. Cayton.*



SOARING NATIONALS

Blistering desert-like heat and adverse weather made this one of the hardest meets for contestants. But it proved a triumph for home-builders whose ingenious sailplanes took the first three places





Overall winner Dick Johnson finished with 929.7 points flying the slick, laminar-flow wing RJ-5 sailplane. His best flight was 320 miles from Elsinore to Phoenix, Arizona.

Second place went to Ray Parker of Twenty Nine Palms, Calif., who flew one of the prettiest sailplanes at the contest, the "Tiny Mite." Parker earned 773 points, won trophy for best modified ship.

One of the new and interesting sailplanes at the meet was the "Penetrator" designed and built by Harry Perl who engineered the Nelson Hummingbird powered glider. Due to sickness, Perl was unable to fly.

■ The 21st American Soaring Championships held at Elsinore, Calif. marked the first time that such a meet has taken place on the West Coast. Statistically, the 45 contestants flew 40 ships for 8,303 official miles. Dick Johnson and his RJ-5 won the championship for an unprecedented fourth time, once more than Paul MacCready. The Fauvel AV-36 built by Fred Jukich and B. Hall of San Francisco made its first appearance in this country. Gus Briegleb soared an Aeronca Sedan with its prop tied down to demonstrate to the thousands of spectators that you don't fall when the fan stops. These were some of the highlights.

There were two types of flying competition: task days when everyone flew a course established by the contest committee, and open days when pilots picked their own destination. Most days found good lift over Elsinore Valley; on one occasion 11 ships were in the same thermal. The jockeying for take-off time was very interesting, for the lift usually started about 12:15. Those who were left with take-off times prior to this usually landed soon, returning to the air about 2:30. Some found enough lift barely to hold their own, and we can remember six ships directly over the field on one day which must have been in "zero sink" to 50 ft. per minute lift, for they floated overhead at an altitude of about 500 feet for more than three-quarters of an hour before they managed to climb up and away.

There were three ships which demonstrated in advance their ability to outstrip all others, and a fourth which unluckily, due to pilot illness, did not accomplish much flying. The RJ-5 was undoubtedly in best trim. Ray Parker's Tiny Mite was modified by adding wing and flat topping and refinished slicker than glass. The third ship was the Kern-Maxey which had beautiful sheet-metal work. The ship was of very high aspect, three-piece wing, V tail, and had been test-hopped two days prior to the opening of the meet. On its third flight it flew 283 miles to Mesquite, Nevada.

The fourth ship was Harry Perl's Penetrator. Harry himself was ill and so did no flying, but later in the contest Doc Sawyer gave up on the Mitchell Nimbus until more work could be done on it and flew the Penetrator. The wing on this latest Perl design is very unique in that the leading edge back to the main spar, which is the 30% chord line, is filled to the contour with Styrofoam, then covered with plywood. Harry claims no rippling occurs under any conditions.

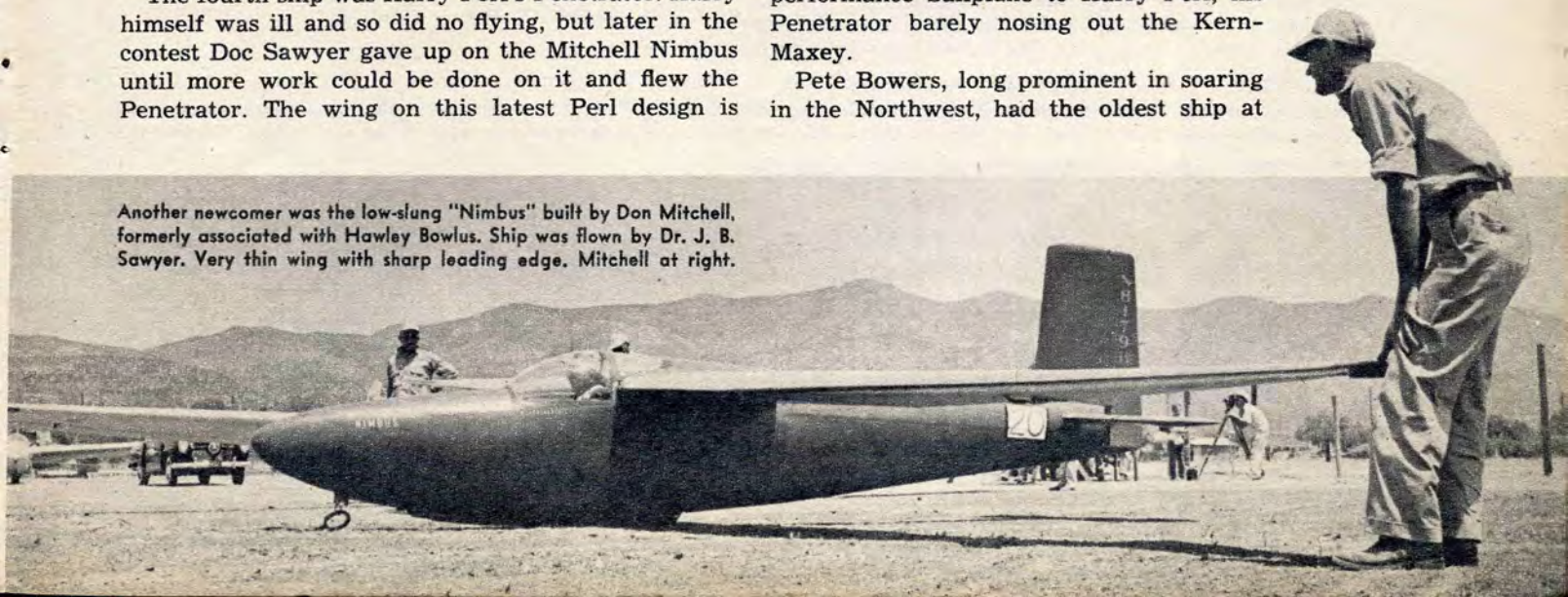
The new Schweizer 1-26 in the hands of Clarence See gave an excellent account of itself and but for an unfortunate experience would have been much higher in the standings. On one day when Banning and return was the task, Clarence made it to Banning before the observer arrived, with 6500 feet of altitude, only to circle and land where no marker was visible. Though he had an excellent chance to make it back, his was not one of the two ships that succeeded—the RJ-5 and the Tiny Mite; Parker won over Johnson due to better elapsed time.

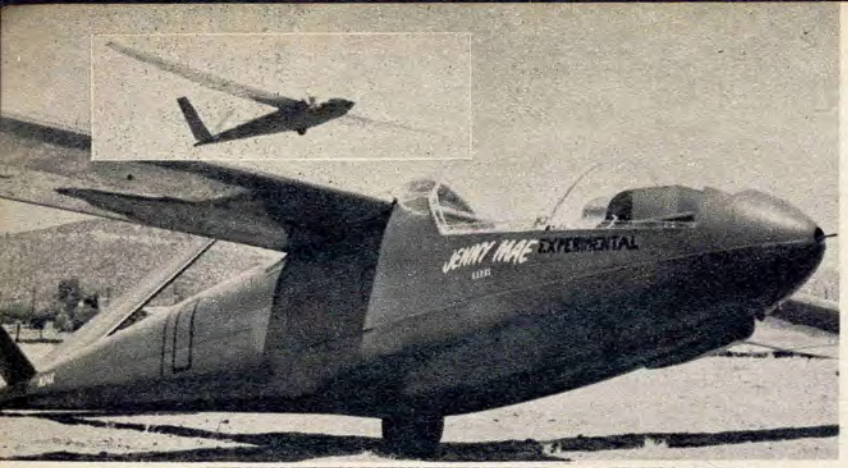
On this day Banning was the milk run; lots of rumors of a big card game while pilots awaited ground crews. Other days it was Hemet, 20 miles distant, with more ships landing there than making it out.

In addition to winning his fourth championship, Dick Johnson took Class I first place. Ray Parker captured best Goal and Return, best Distance and Return and also the award for best Modification. Women's Champion was Betty Loufek, Junior Champion was 14-year-old Ross Briegleb. The Club Championship was won by Associated Glider Clubs of Southern California from San Diego; Two-place Champ, Bill Beuby; Class II, Harold Hutchinson, Class III, Don Stevens. In design competition the best Intermediate Type Glider and Sweepstakes went to Schweizer for their 1-26, the best Design of High-performance Sailplane to Harry Perl, his Penetrator barely nosing out the Kern-Maxey.

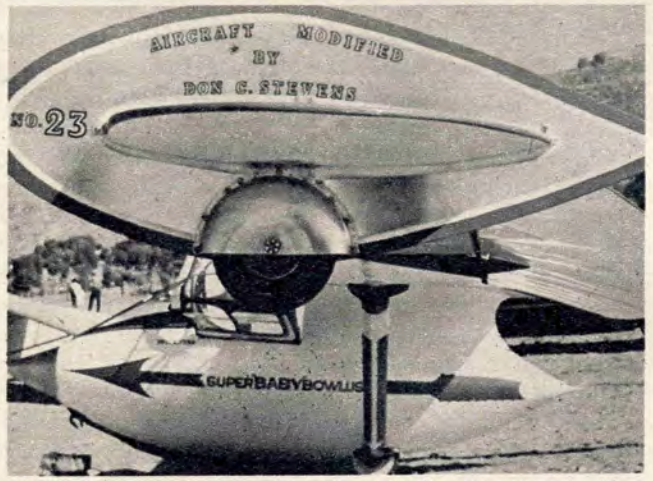
Pete Bowers, long prominent in soaring in the Northwest, had the oldest ship at

Another newcomer was the low-slung "Nimbus" built by Don Mitchell, formerly associated with Hawley Bowlus. Ship was flown by Dr. J. B. Sawyer. Very thin wing with sharp leading edge. Mitchell at right.





In third place was Lyle Maxey of Playa Del Rey, Calif., with his all-metal Kern-Maxey. Dive brakes can be seen on fuselage under wings. Best flight was 283 miles to Mesquite, Nev. Ship carried radio.



Old-timer Don Stevens took first place in Class III category with a much modified Bowlus Baby Albatross equipped with tip plates, tip wheels and streamlined pod which give supersonic look. Stevens, a prewar soaring pilot, flew military gliders during it.

Junior Champion was Ross Briegleb, 14 (left), of El Mirage, Calif., shown after landing 2 ft. from marker during spot-landing contest. Father Gus aero-towed him to meet, also retrieved him via air route.

SOARING NATIONALS

the meet—a 1934 Wolf. With it he placed second in Class III and point-wise halfway in the middle of the field of 36 pilots; a fine performance, considering the age of his sailplane. Believing that its owner has earned the right to make observations, we quote some of them about the contest in general:

"This was the first Nationals for most of our pilots, and our group was considerably handicapped by lack of experience and knowhow . . . The major deficiency was in crewing . . . Since volunteer crews were hard to find at Elsinore, the crewless were reluctant to head away from the field for an unknown landing spot . . .

"Altogether, some six towplanes were in service, three Fairchild PT-23s, a Piper Clipper, a Meyers with 160 Kinner, and a J-3 Cub. An oddity was the fact that Gus Briegleb's Cinema was aero-towed to the meet from El Mirage, and Ross Briegleb, the 14-year-old who was flying it, had to pick his fields for landing away from the airport so that his Dad could come after him with towplane and retrieve him by aero tow.

"The ship simply could not be taken apart for trailering!

"Some of the ships that used take-off dollies had trouble in getting off on eastbound take-offs due to deep sand at the west end of the field. Some skipped the removable wheels altogether and towed off on their skids. . . .

"The contest weather was mediocre by anyone's standards. The incomparable Dick Johnson got away for one 320-mile flight, but Banning, 32 miles from Elsinore, was the best that the majority of pilots could do.

"Only a mere handful of top performers like Ivans, Bikle, Ray Parker, and Lyle Maxey were able to bypass Banning with consistency. . . . The big problem was to break out of the valley through one of the passes. With good cumulus clouds around, it would have been no problem, but a high-pressure area sat over the coast for the entire time of the meet, and sea air blowing in along with the Los Angeles smog kept the thermals small and at low altitude. What ones there were were tough to handle, and every foot of altitude and every mile of distance was earned the hard way. . . ."

"Except for the weather that left much to be desired, the meet can be called a huge success. No one cracked up a ship and no one was hurt. A lot of people learned many things about flying in a big contest . . ."

Fauvel AV-36 Monobloc, French flying wing sailplane, made its first appearance in U.S. at the contest. This interesting and controversial sailplane built from plans by F. Jukich and B. Hall, San Francisco.

MECHanics TECHnology SCIence | PHOTO Revue

Grumman F9F-9 Tiger. Navy's carrier fighter capable of supersonic speed in level flight. Extended panels under fuselage are dive brakes.

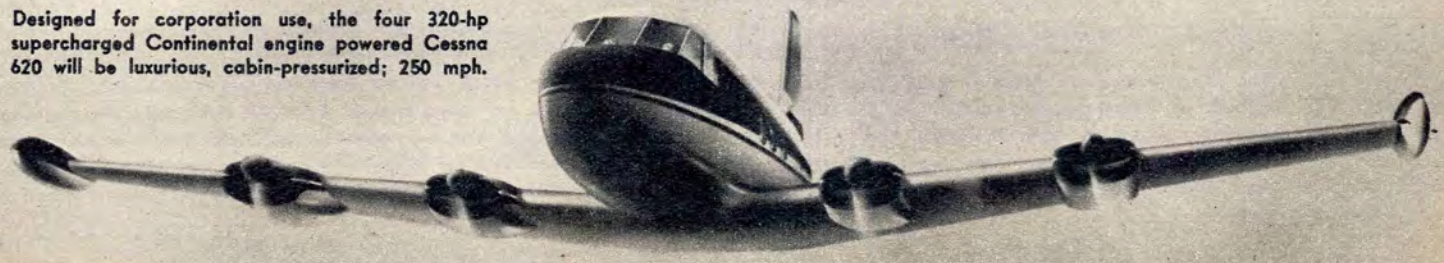
Swamp cruiser can climb embankments, wade through swamp grass and operate as boat. Will be used in Venezuela by oil company.

Lockheed YC-130, latest U. S. Air Force transport, is powered by four Allison T-56 turboprop engines of 3750 hp each. Span 132 ft.

These aquatic water scooters powered by outboard motors were entries in Florida's 130-mile Gold Coast Marathon motorboat race.

One of the entrants in the Marathon, airline captain Dick McGinley hits full speed on his powered surfboard. Extra gas tank on bow.

Designed for corporation use, the four 320-hp supercharged Continental engine powered Cessna 620 will be luxurious, cabin-pressurized; 250 mph.

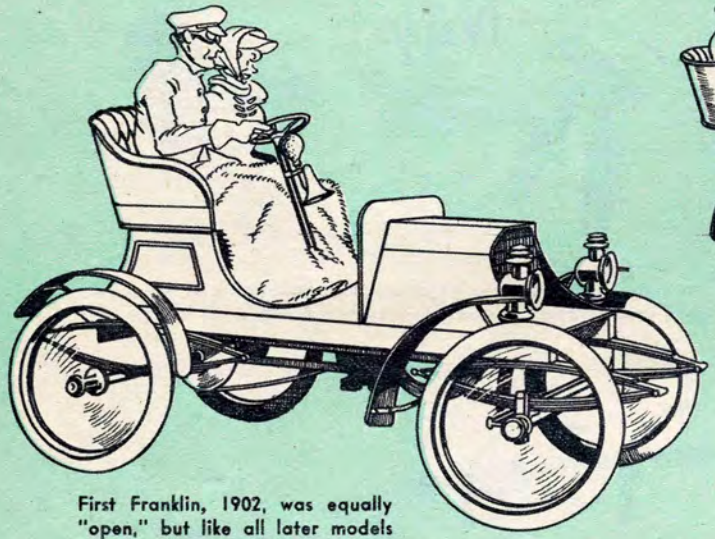


AUTO Progress

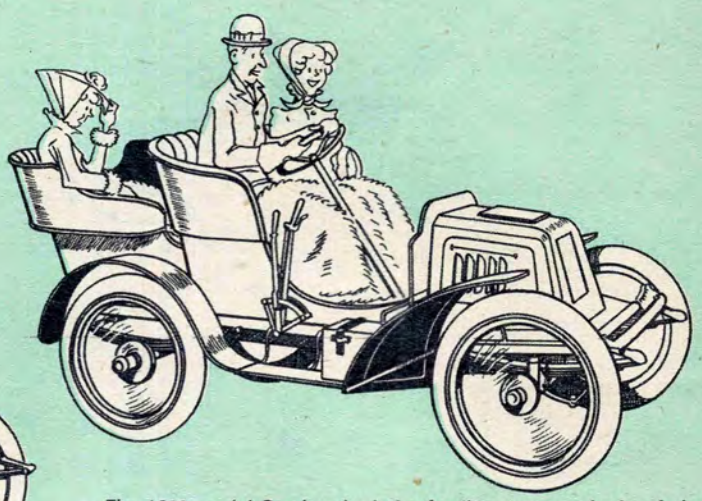
By DOUGLAS ROLFE

Down Memory Lane—III

Many a collector would give his eye-teeth for any of these oldtimers now "passed into glory"

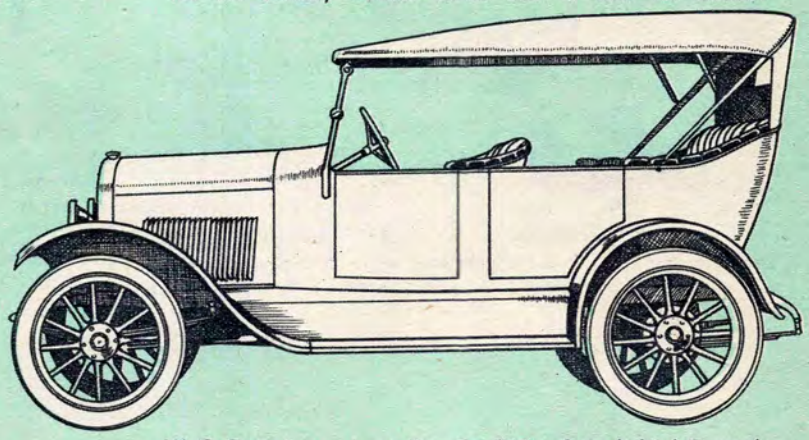


First Franklin, 1902, was equally "open," but like all later models until this make died in '32, had air-cooled engine, elliptical springs.

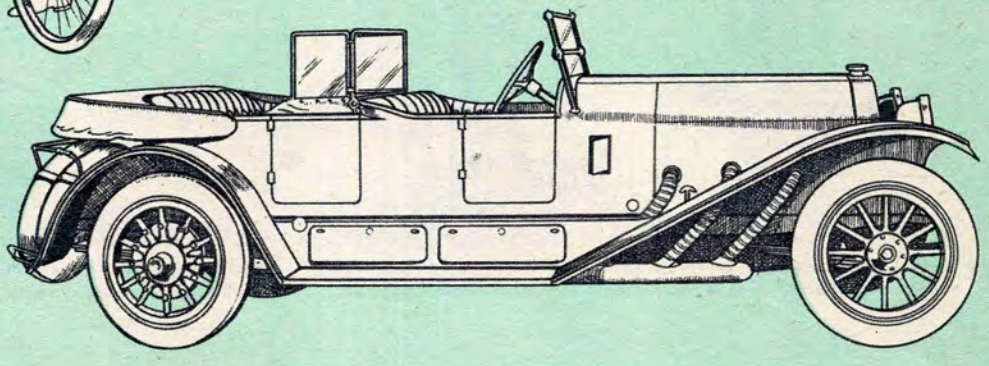


The 1902 model Peerless had the familiar tonneau body of the period with absolutely no protection against inclement weather. These were truly the heroic days when all that mattered was that the car actually worked—driver had to fend for himself!

First Locomobile was produced in 1899. Like so many very early autos it was virtually motorized buggy.

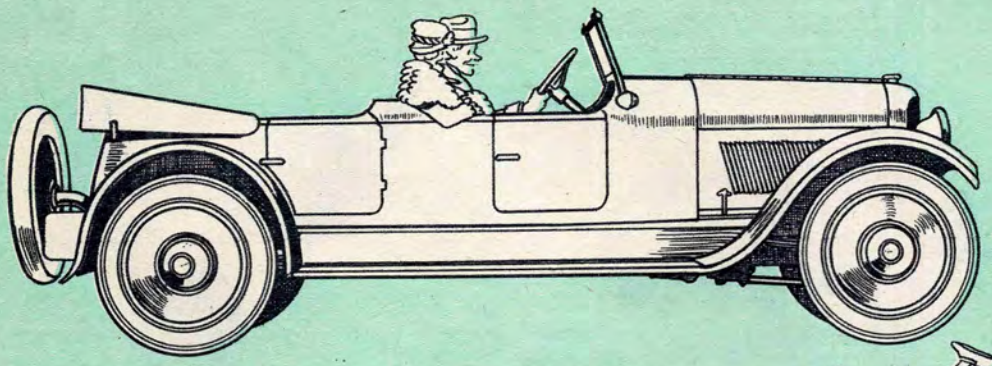


W. C. Durant was at one time the driving force behind General Motors. Forced out in 1922, he formed a rival company and produced low-priced, competitive Star. '22 model shown: $348 up.

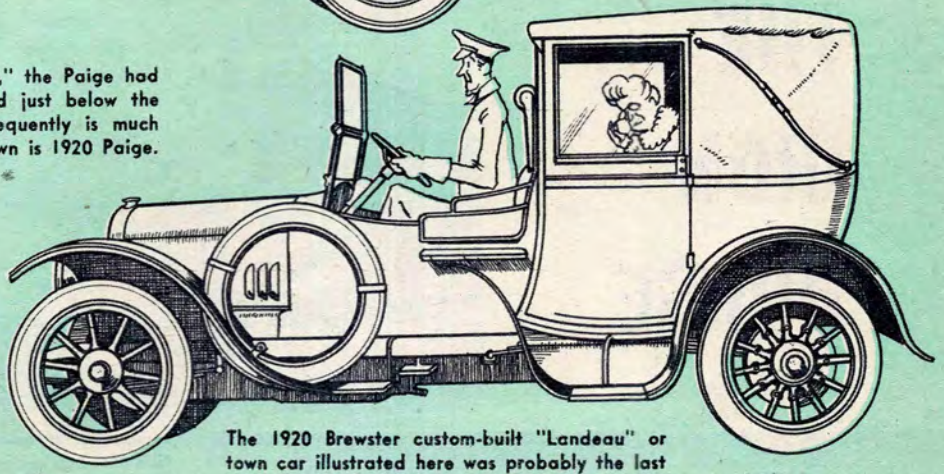


1921 Locomobile was a horse of a different color. The beautiful lines and proportions of this sport phaeton show why it was once regarded as one of the top-bracket U.S. class cars.

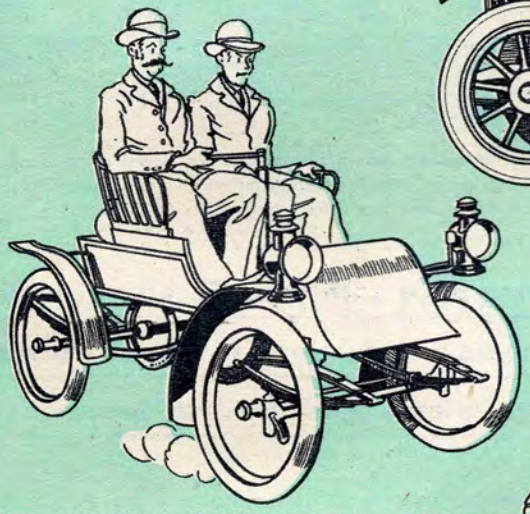
Our third trip down Memory Lane introduces three more models of now-forgotten makes which have appeared in previous issues of Auto Progress and a handful of completely new jobs which were once the pride and joy of their owners. We produce the fabulous Pierce Silver Arrow —a car which was at least ten years ahead of its time. Included are some famous firsts—the Franklin, Peerless and Locomobile original models. Last trip down Memory Lane depicted General Pershing's staff Locomobile. Now we show the 1921 sports phaeton which for sheer beauty would be



Billed as "The Most Beautiful Car in America," the Paige had long lines, little gingerbread, and was aimed just below the luxury line in price. (To be portrayed subsequently is much later Graham-Paige, with skirted fender.) Shown is 1920 Paige.

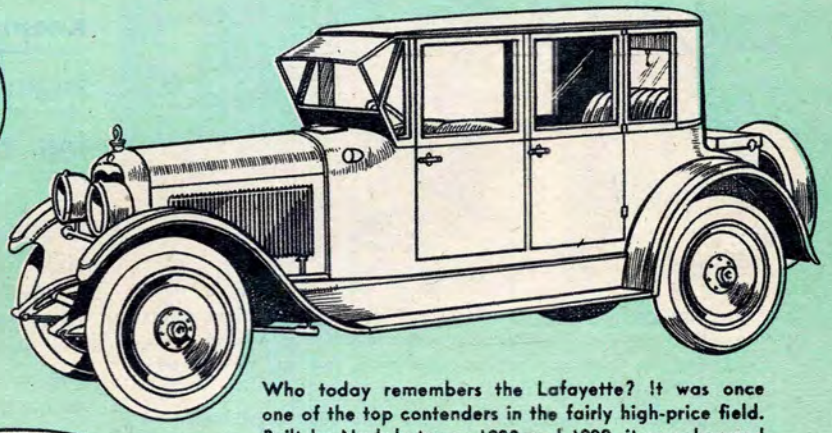


The 1920 Brewster custom-built "Landeau" or town car illustrated here was probably the last word in truly beautiful coachwork. It was a rich man's car from start to finish, and a good one.

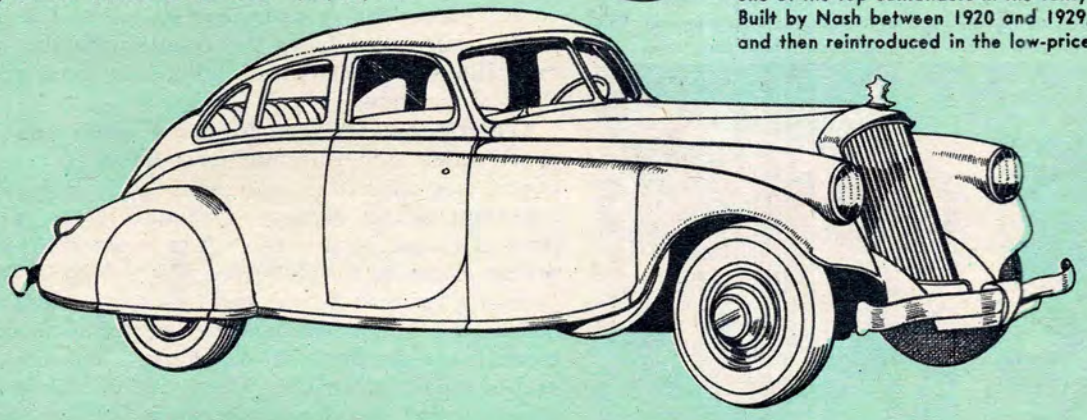


The very first Pierce—for long one of the top U.S. luxury automobiles. Little more than the typical powered buggy of the period; tiller steering.

The Silver Arrow of 1933—last of the Pierce-Arrows—had 175 hp engine, power brakes and styling all far ahead of its time. $10,000, list!



Who today remembers the Lafayette? It was once one of the top contenders in the fairly high-price field. Built by Nash between 1920 and 1929, it was dropped and then reintroduced in the low-price market in 1935.



hard to beat even today in the high-price sportscar field. The custom-built Brewster is yet another example of a forgotten craft and era. Today, wisely, most car bodies are fabricated from steel or tough plastics but we should not overlook the marvelous coachwork which probably attained its peak with such makes as the Brewster and Rolls-Royce. In the latter case, however, the coachwork was rarely produced by Rolls. For many years this company sold only the bare chassis—your own favorite coachmaker finishing the job. (Early Rolls models in future issues.)

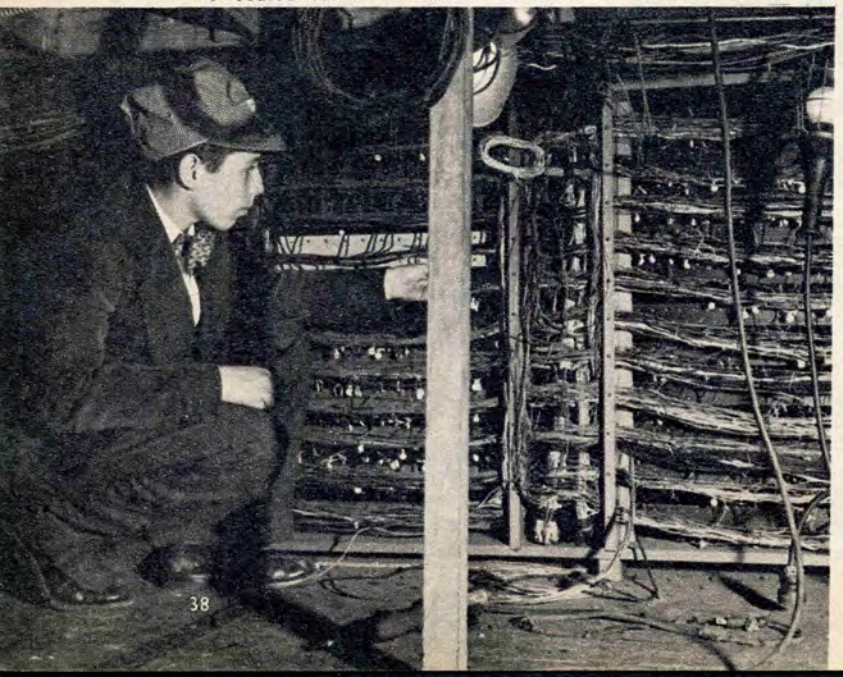
Even in miniature form!

DIESEL OVERTAKES THE IRON HORSE

A youthful enthusiast gets a few pointers in model railroad operation from an expert who is pointing out some of the essential parts of a locomotive. This is a true scale model of a Santa Fe diesel.

Most equipment consists of diesel and electric locomotives, in keeping with the trend of present-day railroad practice. Motive power is supplied by third rail or overhead wire, just as in real set-up.

To operate the railroad with its more than 5000 ft. of track and a maze of switches and signals requires a complex wiring system. This is located out of view under the tables on which the trains run.



Keeping pace with time, Society of Model Engineers bids farewell to steam, converting to diesel and electric locomotives

■ Following the trend of nation's railroads, the Society of Model Engineers whose headquarters are located in the vast Lackawana Terminal at Hoboken, New Jersey, has been gradually converting to diesel and electric scale trains. Here in its spacious clubroom the members have laid out more than 5000 feet of track much of which is constantly rerouted or under construction. The organization is one of the largest model railroad clubs in the country, holding yearly exhibitions which attract enthusiasts from all over the United States.

Leaning towards realism, it has shied away from construction of "Futuramic"-type landscapes. Its main object, besides authenticity of its rolling stock, is to represent actual scenery as faithfully as possible. Thus a casual visitor can often recognize such familiar scenes as the Delaware Water Gap. A scraggy face of a railroad tunnel can be as important as the construction of a pantograph. The highly successful exhibits are not confined, therefore, to the mechanical end of model railroading alone, but to railroading in a setting that is authentic in every detail.

Every Wednesday night and Saturdays, members of the Society meet at the Lackawana Terminal where they engage in many tasks connected with the operation of their hobby. Part of this activity consists of keeping abreast of changes and expansions occurring in American railroads.

So realistic is the reproduction of the trestle and a suburban train speeding across it that only the man's figure identifies it as a model. Trains, incidentally, run on a definite schedule.

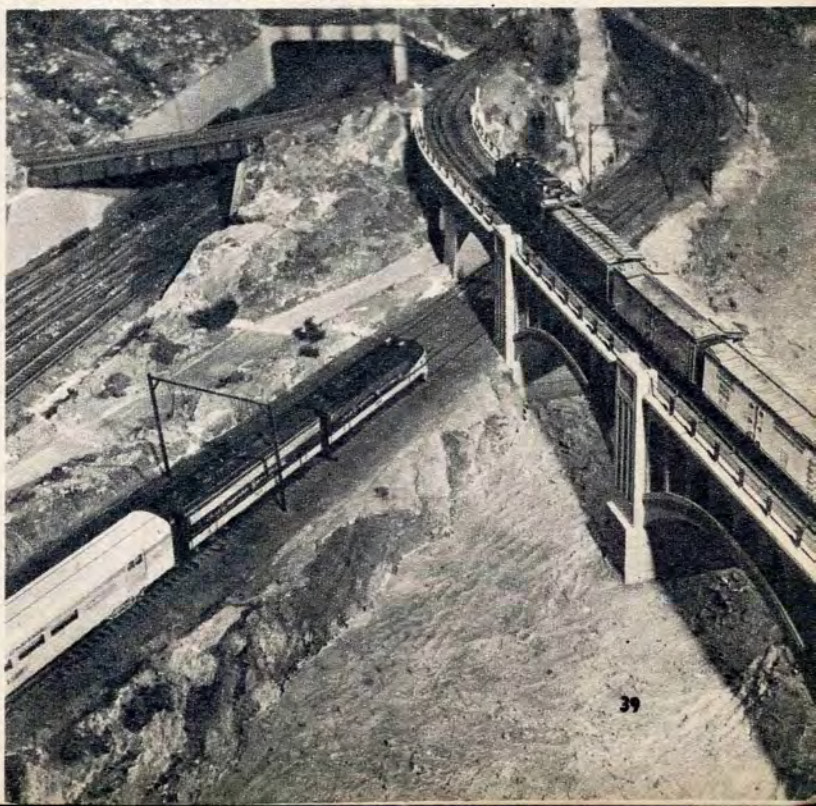
A diesel express train passes over a grade crossing in mountainous countryside. Complete realism is achieved with bowed trees suggesting wind, surfacing of the road and markings to denote crossing.

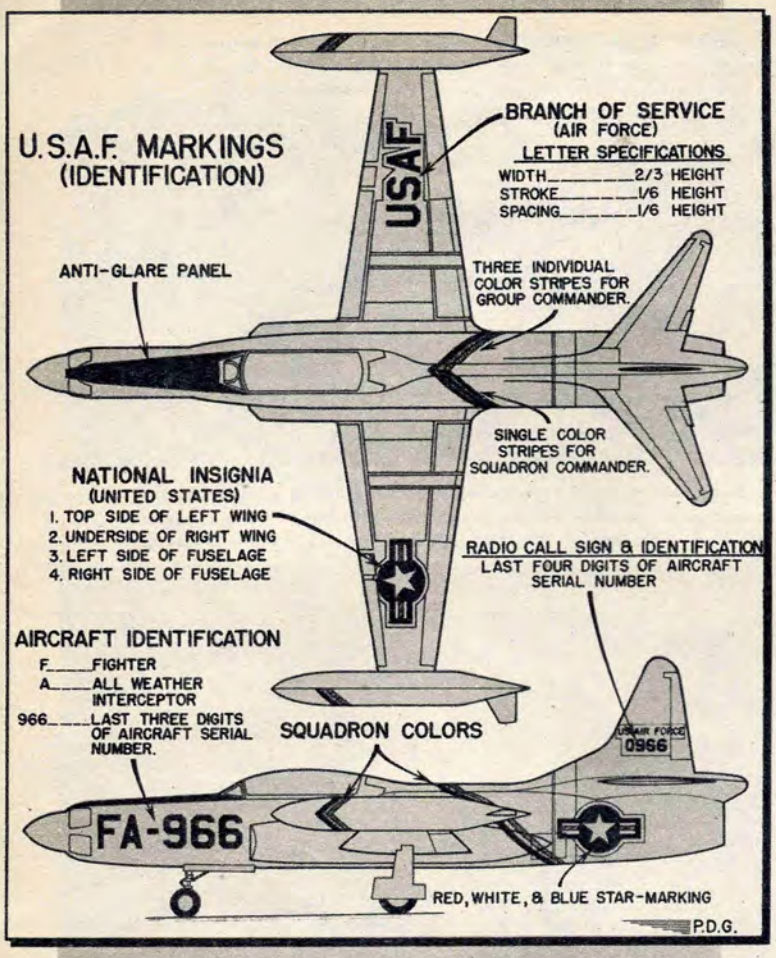
Members of the Society of Model Engineers do not concentrate on the railroad alone. Considerable effort is spent on scenery which is reproduced in scale and often represents actual sections of country.

It's not all play for the members of the Society of Model Engineers—maintenance is an important part of the hobby. Tracks must be in top-notch shape, scenery attended to, vacuum-cleaned at intervals.

Business end of the model railroad is this control panel, full of switches, buttons, cranks and multi-colored lights, from which an experienced operator controls train movements as on full-size R.R.

Here's an example of perfect realism achieved by members of the Society. The "pike" is a masterpiece of workmanship requiring many weeks of painstaking labor. Only thing missing is water in river.





HOW TO APPLY AIR FORCE PLANE MARKINGS

By MAJOR PHILIP B. WOODROOFE, USAFR

Each marking of an Air Force plane points out its function. Here's a detailed explanation of the system which will benefit the scale model builder

■ All aircraft markings tell a story. The all-weather interceptor in 2-view form carries a combination of many markings to identify this particular plane.

The *red, white and blue star-marking,* or *national insignia,* shows that the aircraft belongs to the United States. The *USAF* on the wing indicates its branch of service is the Air Force. The letters and numerals on the nose section are more specific; the *F* stands for Fighter-type, the *A* designates it is a Lockheed "Starfire," while the *numbers* indicate the individual airframe. That its field of operation is in the Arctic is shown by a red tail and red wing tips. Narrow red, yellow and green stripes run diagonally across the fuselage and the tip-tanks; these are a combination of the three *squadron colors.* The combined colors are used only on the group commander's plane; the planes of the respective squadron commanders carry stripes of a single color.

The use of these *group colors* with the *Arctic markings* would identify this aircraft as one of the 57th Fighter Interceptor Group. Other colored markings on the wings and tip-tanks are for *squadron identification.* On the 2-view F-94 these markings are yellow to identify it as one of the 66th Fighter Squadron. In many instances the names of the *pilot* and *crew-chief* will be found stenciled below the cockpit.

These markings make the plane colorful but serve a functional rather than a decorative purpose.

On the F-86 "Sabre" there are over 175 separate markings indicating everything from the nationality of the aircraft to the small stencil "place jack here." Small markings like these can be found all over the airframe but are impossible to reproduce in a scale model because of their diminutive size. The more prominent markings must be included on the finished model if the builder has any desire to reproduce the authentic.

When the model builder has carefully assembled the several parts of the aircraft and filled the porous wood, he must consider what is to be the basic color of the plane. Today this is a fairly simple task since all operational Air Force aircraft are aluminum. Not many years ago night-fighters were painted black, combat-craft were olive drab with some variations dependent upon their theater of operation. Now only special-purpose aircraft have as their basic color anything but the original aluminum. With the model painted this color the builder may proceed to the insignia.

First, the model must be identified as one belonging to the United States. This is done by the placing of the *National Insignia* on the wings and fuselage (see two-view).

This insignia has evolved through several stages, from the red star of the 1915-17 era, through the concentric circle or roundel stage of World War I, the red, white and blue star of the between-wars period, to the white star that came after Pearl Harbor. There were various modifications of the white star until 1947 when the insignia in the 2-view was adopted for our military aircraft.

The Air Force has set up certain rules covering the placement and dimensions of this insignia. It must appear in four places on all Air Force aircraft: on the top side of the left wing; on the underside of the right

wing; on both sides of the fuselage.

For the wing insignia the circle should not be less than 30 inches, or more than 60 inches in diameter. It is specified that the circle be laid out in a diameter divisible by 5 (*i.e.*, 30", 40" etc.). The diameter of the circle must not exceed 75% of the distance between the leading edge and the aileron cut-out at the point of application. The center of the insignia will be one-third of the distance in from the wing tip to the fuselage, and the blue circle will touch the aileron cut-out. The single point of the star should be toward the leading edge of the wing.

When this insignia is placed on both sides of the fuselage the diameter of the circle should not be more than 75% of the height of the fuselage at the point of application. The diameter should not be less than 20 inches or more than 50 inches. The insignia should be midway between the trailing edge of the wing and the leading edge of the horizontal stabilizer.

Next the modeler must establish the *branch of service* of his craft. For Air Force planes this marking appears on the lower side of the left wing and the upper side of the right wing. It is used on all USAF aircraft with the exception of National Guard aircraft (see two-view drawing).

The width of the letters in the USAF should be two-thirds the height of the letters and the width of the stroke one-sixth the height of the letter. The spacing between the letters is one-sixth the height of the letters; the top of the letters should face the leading edge of the wing.

Another essential in the identification of the aircraft is the *"Radio Call Sign and Identification"* (again, see two-view drawing).

These markings appear on both sides of the vertical stabilizer where the legend U.S. Air Force is one-half the height of the radio call marking and the bottom of the letters is 3 inches above that marking. The *radio call* must contain at least the last four numbers of the aircraft's serial number. The Air Force recommends that each number be at least 12 x 8 inches for good visibility. The formation of these numbers should follow the rule of design for the letters USAF.

Identification of the aircraft as a fighter craft is made by letter-numeral combination, example of which is shown on two-view drawing of F-94C.

This appears on both sides of the fuselage. The F indicates that this is a Fighter. The letter B in its place would stand for Bombardment, a C for Cargo, and a T for Trainer. The next letter A indicates that this is an F-94, an all-weather interceptor. All similar type aircraft placed in production by the Air Force are assigned a letter to be used in this marking. Those currently flown by the Air Force have the following designations:

F-80—T F-84—S F-86—U F-89—V F-94—A

Following the hyphen are the last three numbers in the radio call sign. The minimum size of the figures will be 8 x 12 inches and the maximum 32 x 48 inches.

Aircraft operating in the *Arctic* regions carry special markings that can be readily seen by the Air Rescue Service or other searching parties in the event that the plane is forced down in the snow. These red markings would be on each wing tip, both top and bottom, and on the tail section. It is specified that the red paint be applied no closer than 3 inches to other standard markings. The red markings extend forward from the tail to 3 feet in front of the forward edge of the radio call marking. On the wing the red paint is applied from the tip to the inboard end of the aileron, perpendicular to the lateral axis of each wing, parallel to the longitudinal axis of the fuselage.

A really good model plane (*Continued on page* 85)

B-29's big sister-ship, the Boeing B-50, carries identification BK-026 on rear section of fuselage; radio-call sign is 6026 on fin.

One of the latest identification letters is "W" for the supersonic North American F-100. Plane is now under test with the USAF.

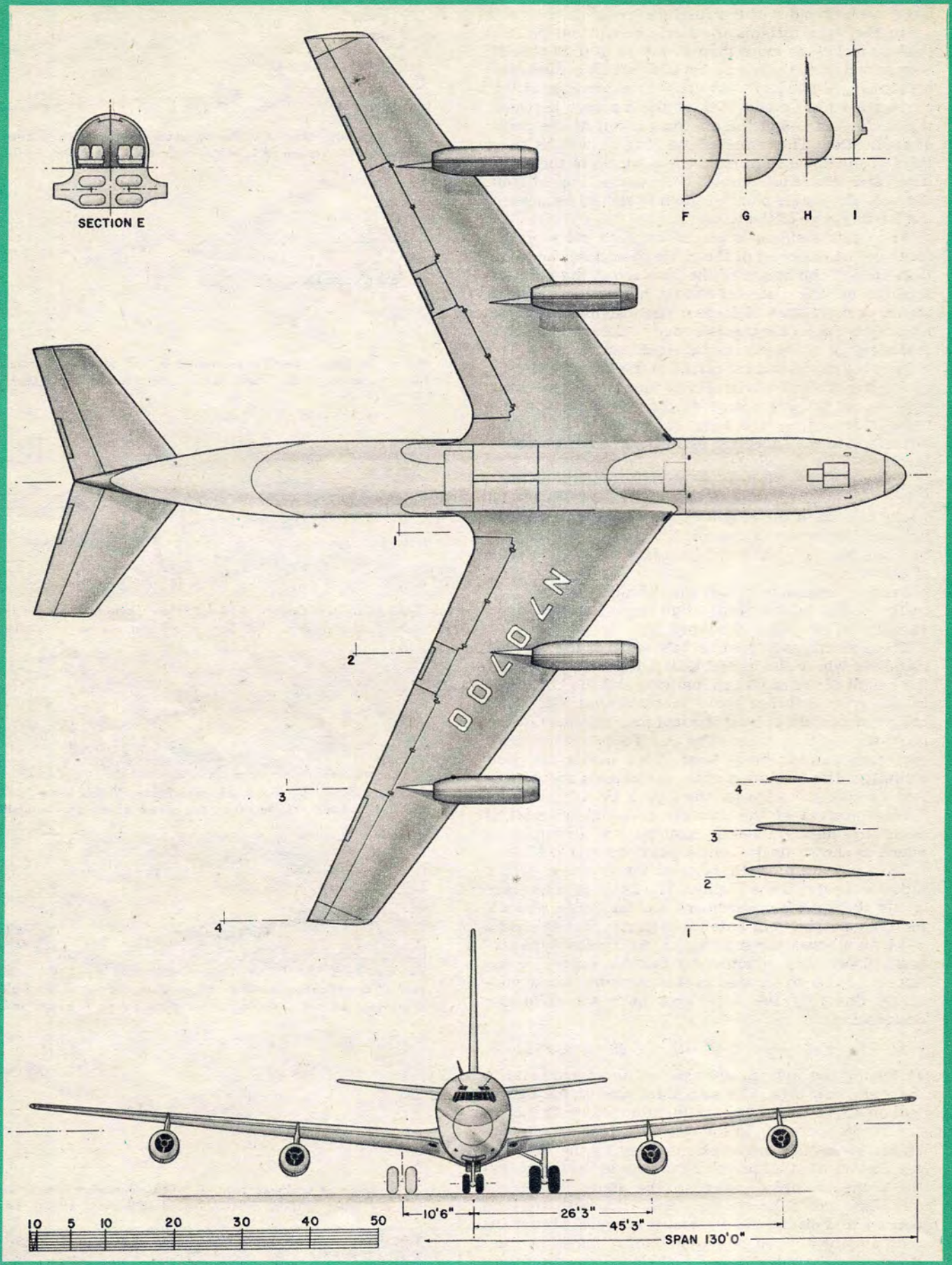
Flying Classroom Convair T-29 for future navigators carries the training identification "T." Ship is military version of airliner.

Republic RF-84F photo-reconnaissance fighter. Visible is the "danger line" around the fuselage rear ahead of national insignia.

Not all identification markings are on nose; the FV of the F-89D Scorpion is on rear of fuselage. Anti-glare panels on rocket pods.

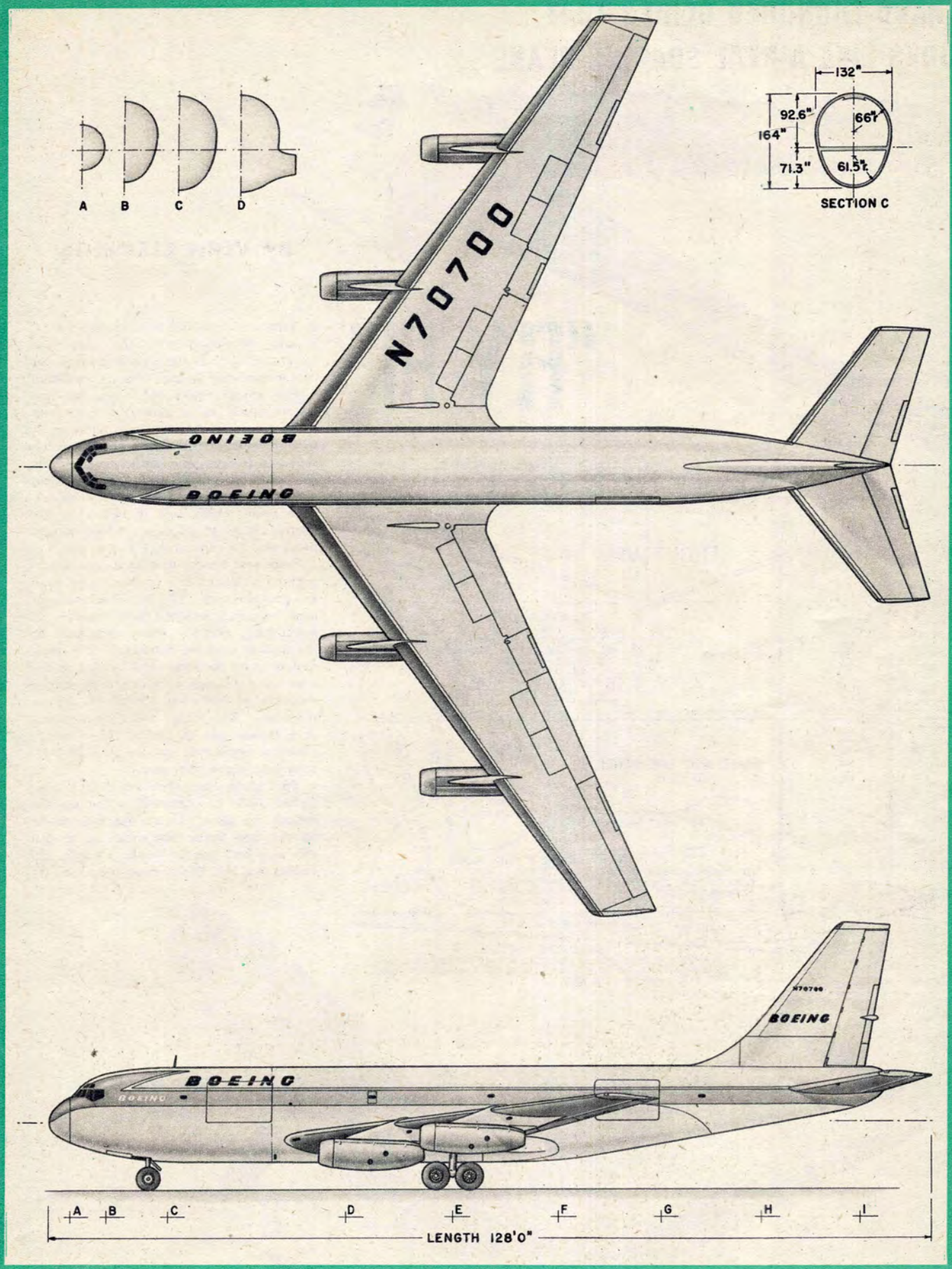
Early version of Lockheed Starfire, F-94A all-weather interceptor, like the latest version, F-94C, has identification letters "FA."

Military Air Transport Service (MATS) does not carry identification markings like other military planes—has insignia on nose.



SCALE VIEWS BY JEFFERIES

Boeing's 707 Stratoliner/Stratotanker



America's first turbojet transport, which flew for the first time on July 15, was a gamble designed for a dual purpose. It can serve either as a tanker for air-to-air refueling or as a military or civilian transport. For airline use, it will be powered by four Pratt & Whitney JT3-L jet engines, commercial versions of the J-57, first turbojet engine to be granted CAA Type Certificate. How well the Boeing gamble paid off is attested by the fact that the USAF has contracted for 88 jet-tankers based on the "707" design. Let's hope the airlines will follow soon.

A HAND-LAUNCHED GLIDER THAT LOOKS LIKE A REAL SOARING PLANE

"FLY-HI"

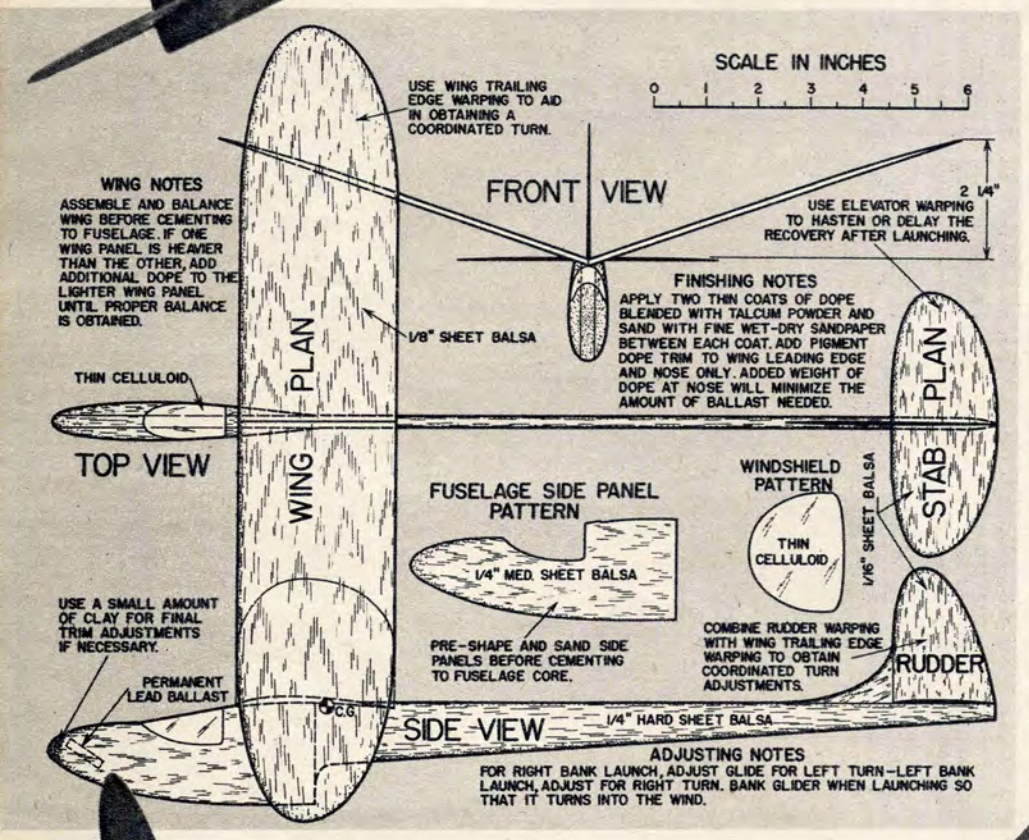
By VERN CLEMENTS

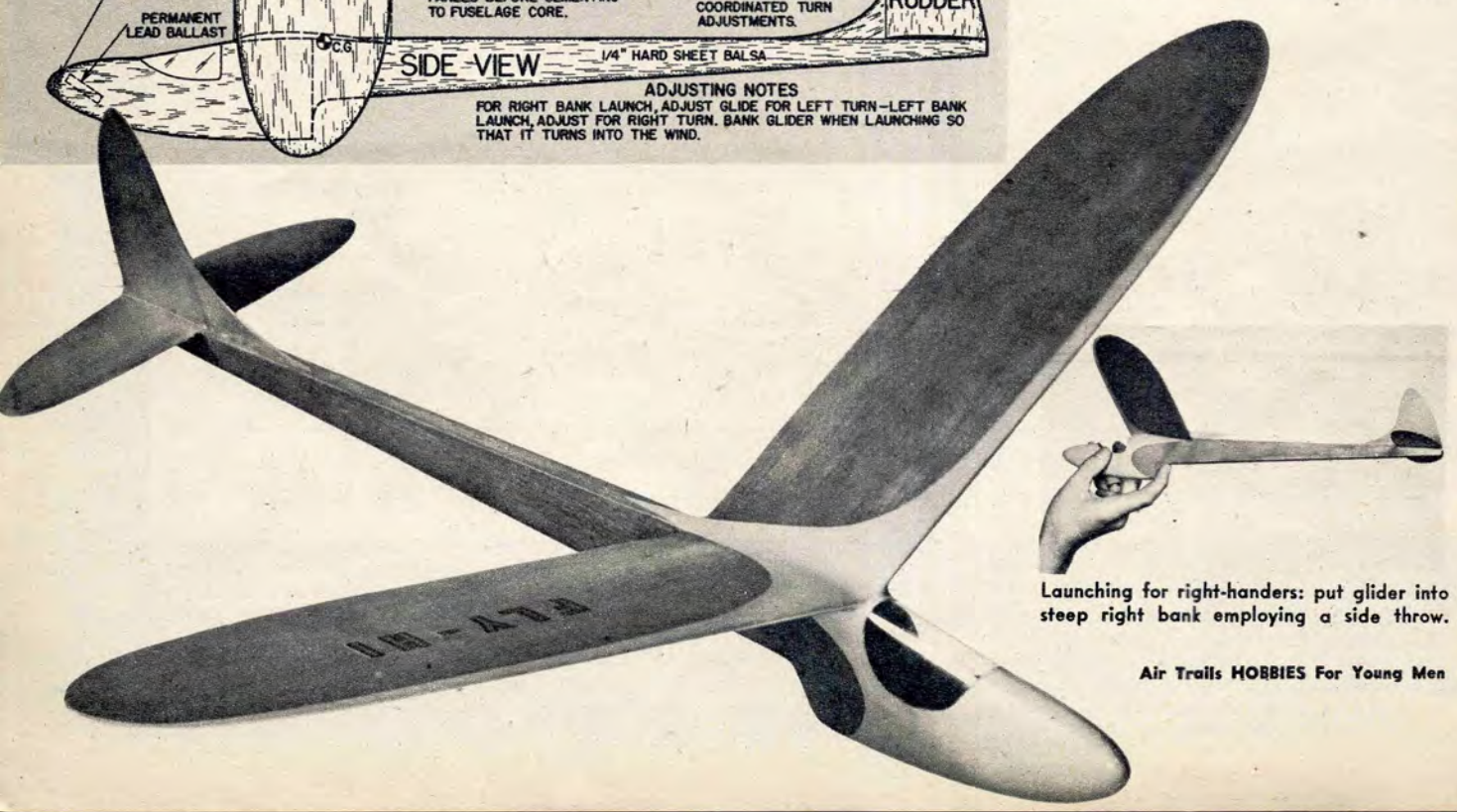
■ This is an unusual hand-launch glider. It was developed with the idea that beauty as well as high performance can be incorporated in this type of model.

The graceful pod and boom fuselage adapts itself to a powerful launching technique. The pod boasts a wide cross-section and a celluloid canopy which suggests realism and adds streamlining. The extra pod laminations are practical since they add weight in front of the balance point which aids in obtaining the proper center of gravity. (A lead weight must also be countersunk in the nose.)

Each test model of this design incorporated a longer tail moment arm than the previous one. The 80% tail moment arm version presented here reaches an astonishing altitude when compared to its shorter coupled brothers. The long moment arm increased the looping radius over shorter designs, which results in a recovery at sufficient altitude to locate thermals. This factor was very apparent in a Boise (out in Idaho), hand-launch glider competition where the *Fly-Hi* took first place with ease.

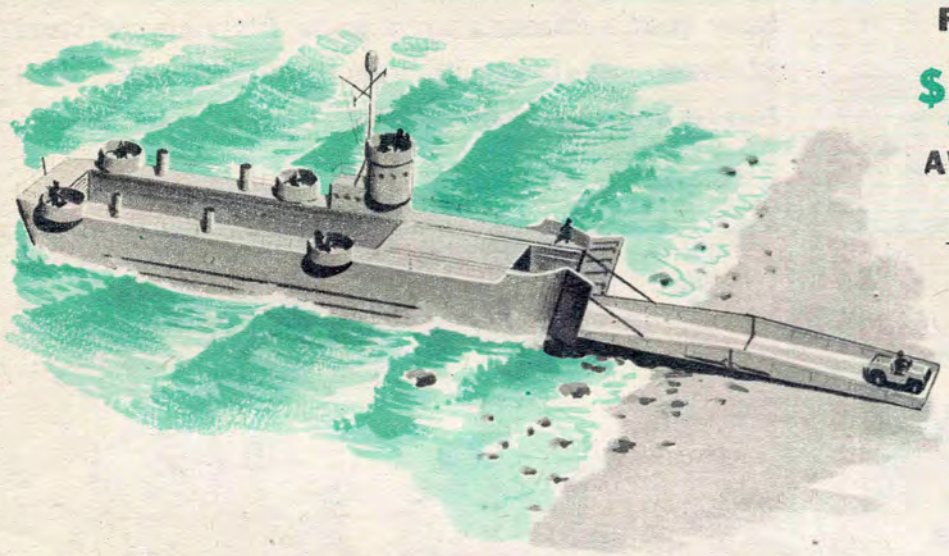
Test glide from shoulder height until a flat glide is obtained, adjusting the rudder for turn. Don't use full power on the first throw but warm up gradually as a ball pitcher would. Adjust the rudder for left (*Continued on page* 73)


SCALE IN INCHES
0 1 2 3 4 5 6
USE WING TRAILING EDGE WARPING TO AID IN OBTAINING A COORDINATED TURN.
WING NOTES
ASSEMBLE AND BALANCE WING BEFORE CEMENTING TO FUSELAGE. IF ONE WING PANEL IS HEAVIER THAN THE OTHER, ADD ADDITIONAL DOPE TO THE LIGHTER WING PANEL UNTIL PROPER BALANCE IS OBTAINED.
FRONT VIEW
2 1/4"
USE ELEVATOR WARPING TO HASTEN OR DELAY THE RECOVERY AFTER LAUNCHING.
FINISHING NOTES
APPLY TWO THIN COATS OF DOPE BLENDED WITH TALCUM POWDER AND SAND WITH FINE WET-DRY SANDPAPER BETWEEN EACH COAT. ADD PIGMENT DOPE TRIM TO WING LEADING EDGE AND NOSE ONLY. ADDED WEIGHT OF DOPE AT NOSE WILL MINIMIZE THE AMOUNT OF BALLAST NEEDED.
1/8" SHEET BALSA
PLAN
THIN CELLULOID
TOP VIEW
WING
STAB
PLAN
WINDSHIELD PATTERN
THIN CELLULOID
1/16" SHEET BALSA
FUSELAGE SIDE PANEL PATTERN
1/4" MED. SHEET BALSA
USE A SMALL AMOUNT OF CLAY FOR FINAL TRIM ADJUSTMENTS IF NECESSARY.
PRE-SHAPE AND SAND SIDE PANELS BEFORE CEMENTING TO FUSELAGE CORE.
COMBINE RUDDER WARPING WITH WING TRAILING EDGE WARPING TO OBTAIN COORDINATED TURN ADJUSTMENTS.
RUDDER
PERMANENT LEAD BALLAST
C.G.
SIDE VIEW
1/4" HARD SHEET BALSA
ADJUSTING NOTES
FOR RIGHT BANK LAUNCH, ADJUST GLIDE FOR LEFT TURN—LEFT BANK LAUNCH, ADJUST FOR RIGHT TURN. BANK GLIDER WHEN LAUNCHING SO THAT IT TURNS INTO THE WIND.

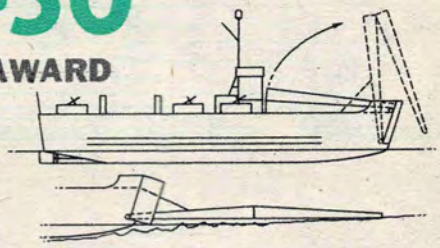


Launching for right-handers: put glider into steep right bank employing a side throw.

Boat Design Competition

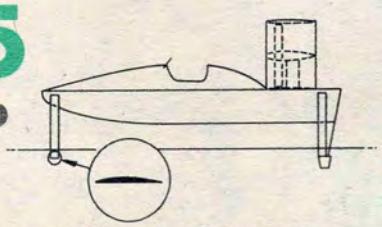


FIRST
$50
AWARD

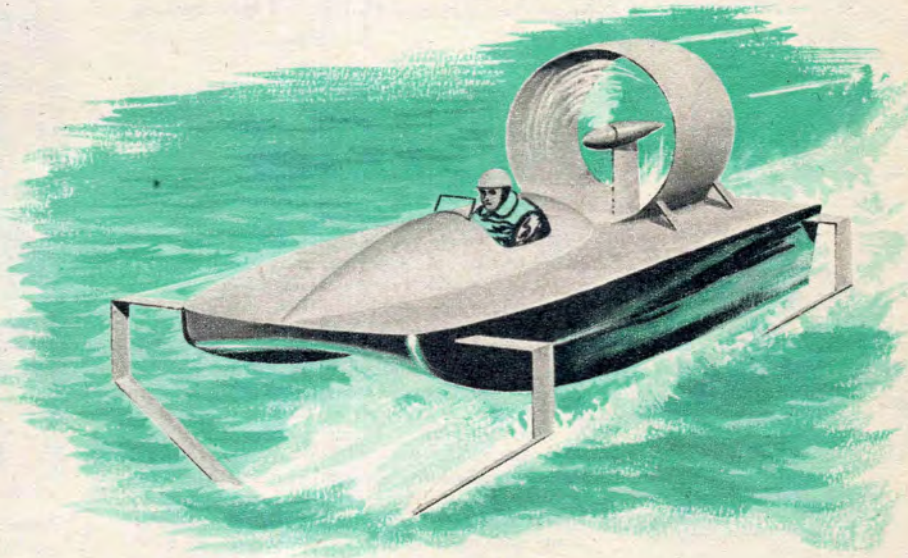


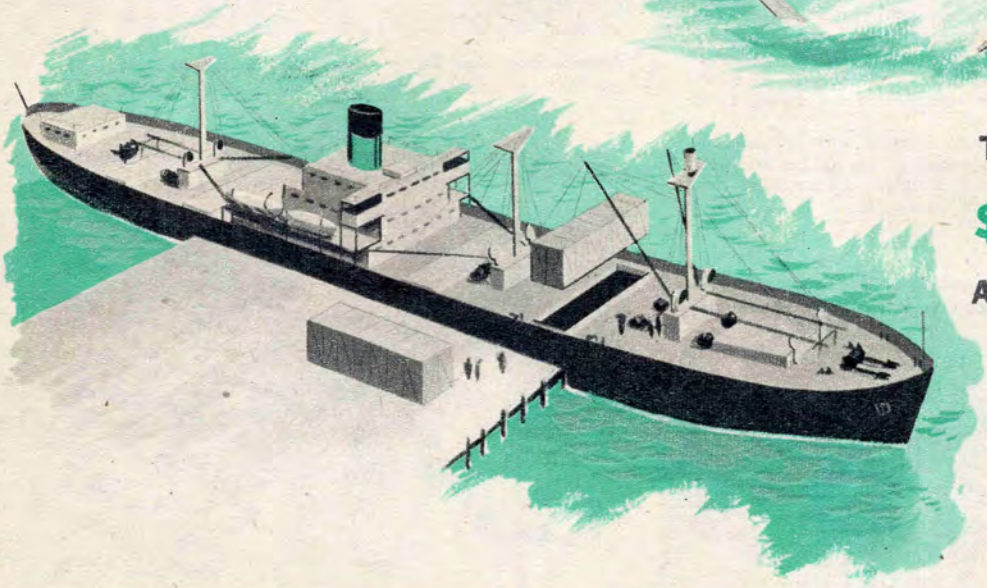
Deserving a first-place award is this "LS" type ship which carries a bridge in the bow permitting tanks, vehicles and troops to land ashore without getting wet. Bridge is folded in two sections and is actuated by a system of hydraulic pistons. When lowered and unfolded it extends 90 ft. ahead of the ship.

SECOND
$25
AWARD

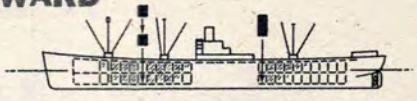


Rating second place, the De Luxe Air Boat is an adaptation of hydrofoil to a sea sled hull. Power is supplied by a 65 or 85 hp flat-four aircraft engine located in the hull, driving a four-bladed propeller which, for greater efficiency, is shrouded or ducted. Engine-cooling air is taken in through back of cockpit.





THIRD
$10
AWARD



Though not a design of a vessel, this idea nevertheless deserves honorable mention. These mobile cargo units on rollers speed up loading of freighter, are easily moved in hold for positioning, transported to industry without opening.

Rules governing this design competition are as follows: Profile (side), plan (deck) and (cross) sectional views of the proposed craft will be required, plus any detail sketches necessary to illustrate unusual features. Do not handicap yourself by submitting hull drawings less than 6 inches in overall length. Give sketches of craft from three-quarter front and rear positions. Photos of a model of the proposed design may be included. Information of powerplant(s), estimated performance, dimensions and explanations of special features are required. Data as to age, occupation or schooling of the entrant should accompany each submission. Mail entries to Boat Design Competition, Air Trails HOBBIES For Young Men, 304 E. 45th St., New York 17, N. Y. Entry each month judged most practical or of greatest significance will receive $50; $25 will go to second place and $10 for third. The editors regret they cannot entry into any correspondence or return entries.

By Bike and Boat to Nantucket

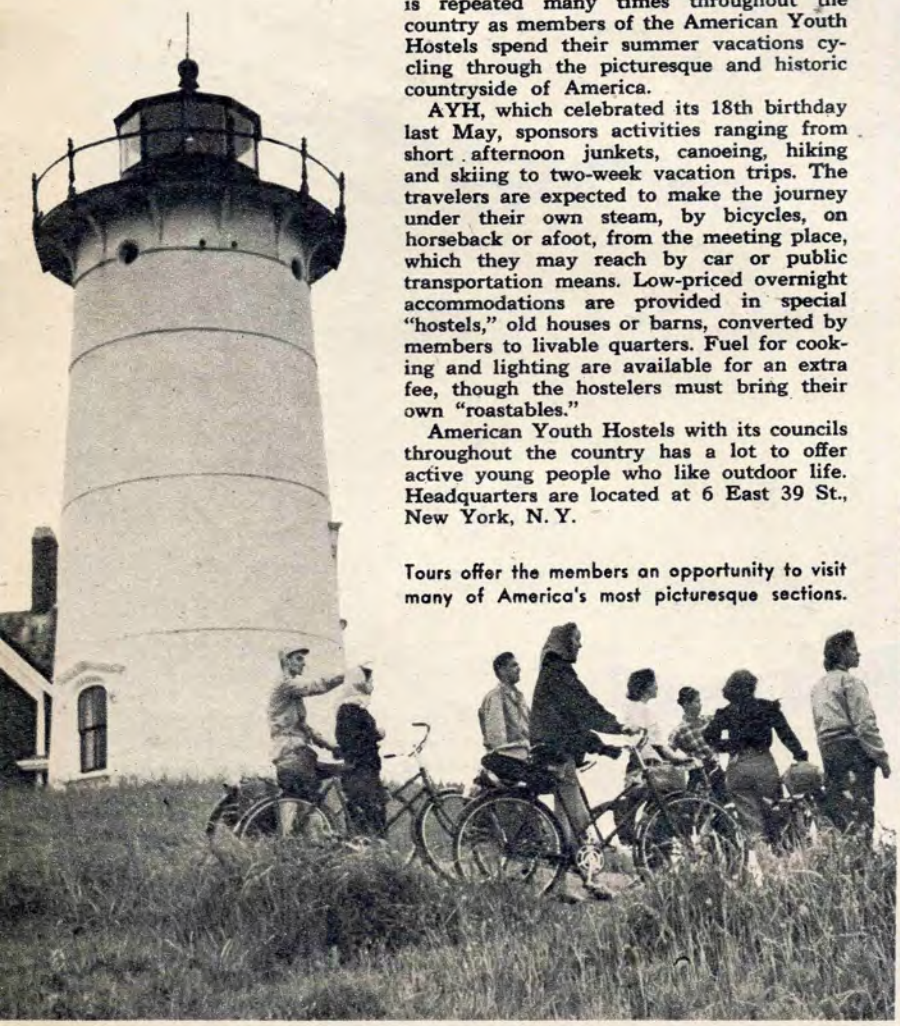
Now that summer's long gone it's time to start planning next year's vacation-on-wheels; AYH has many interesting bike trips up its sleeve

On board the ferry steamer bound for Martha's Vineyard during one of the typical American Youth Hostels trips around New England.

■ Summer traffic jams hold no terror for these young people pedalling their bicycles around Massachusetts' Cape Cod, Martha's Vineyard and Nantucket Island. This scene is repeated many times throughout the country as members of the American Youth Hostels spend their summer vacations cycling through the picturesque and historic countryside of America.

AYH, which celebrated its 18th birthday last May, sponsors activities ranging from short afternoon junkets, canoeing, hiking and skiing to two-week vacation trips. The travelers are expected to make the journey under their own steam, by bicycles, on horseback or afoot, from the meeting place, which they may reach by car or public transportation means. Low-priced overnight accommodations are provided in special "hostels," old houses or barns, converted by members to livable quarters. Fuel for cooking and lighting are available for an extra fee, though the hostelers must bring their own "roastables."

American Youth Hostels with its councils throughout the country has a lot to offer active young people who like outdoor life. Headquarters are located at 6 East 39 St., New York, N. Y.



Tours offer the members an opportunity to visit many of America's most picturesque sections.

Disembarking from the ferry, hostelers mount their bikes. They will follow precise itinerary laid out by AYH headquarters.

Hostels may not be equipped with canopy beds, but there is plenty of comfort for the weary after a day of pedalling.

AYH initials and arrow are clues for tail-end Charlies to follow. Number of squares in arrow's shaft indicate miles to destination.

Break at noon. As most hostelers are city dwellers and not used to large doses of fresh air and exercise, a midday rest is most welcome.

Where mutual assistance plan does work. Tour participants must learn to help each other. In this instance: "It's a pleasure, lady."

After chow dishwashing is in order. In case city slickers are not acquainted with that gadget, it's water pump, not orange squeezer.

Two-tiered bunks serve as beds in men's quarters. Rugged simplicity of the hostels adds to fun of outdoor life while on vacation.

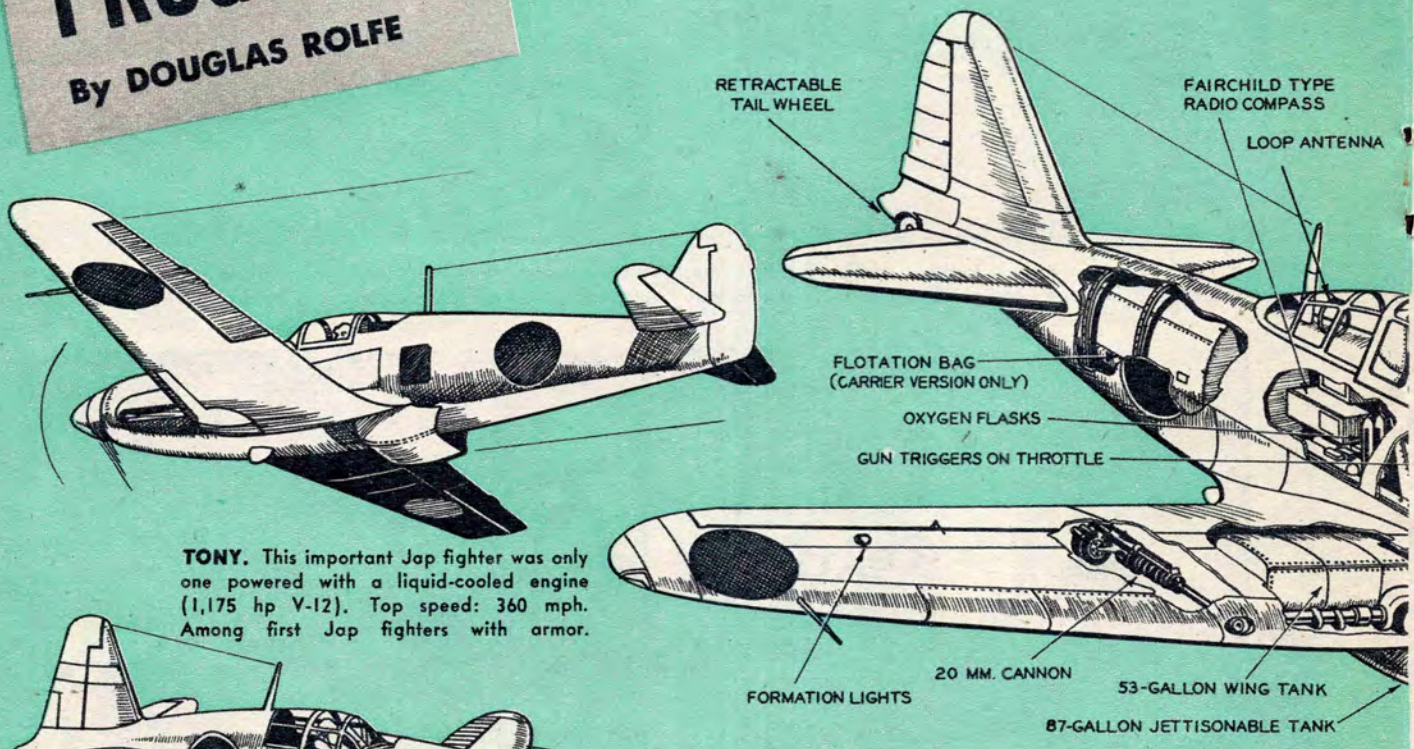
Saddlebag in hand, she is ready for a day's bicycling after a night's rest. Trips are headed by leaders who act as chaperones.

AIR PROGRESS

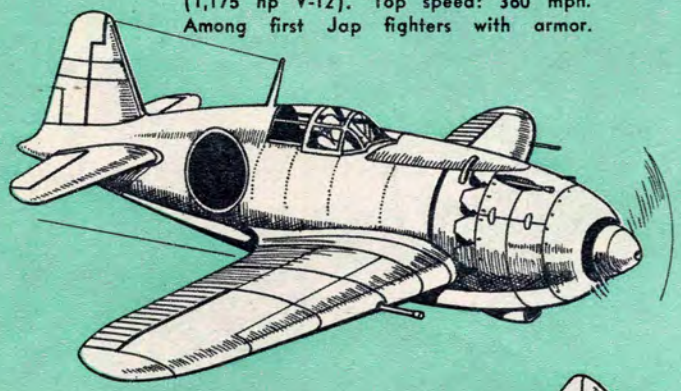
By DOUGLAS ROLFE

Japanese Air Force

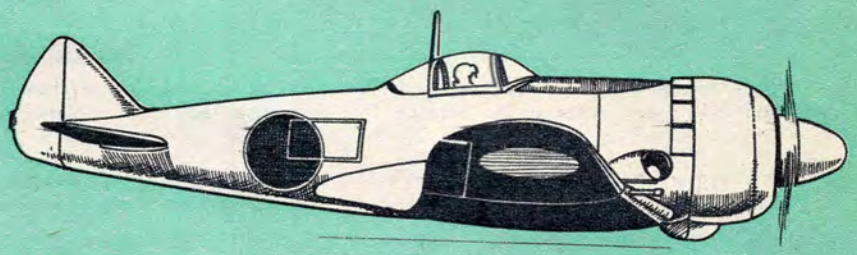
WORLD WAR II FIGHTERS



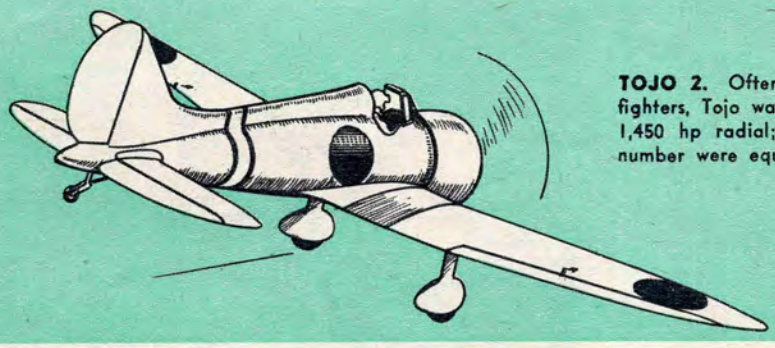
TONY. This important Jap fighter was only one powered with a liquid-cooled engine (1,175 hp V-12). Top speed: 360 mph. Among first Jap fighters with armor.



ZEKE. The Mitsubishi 52, Type "O", was most widely publicized, most widely produced Jap fighter. Completely unarmored and without bullet-proof tanks, it was vulnerable to attack but, thanks to its extreme maneuverability, a formidable weapon in air combat.



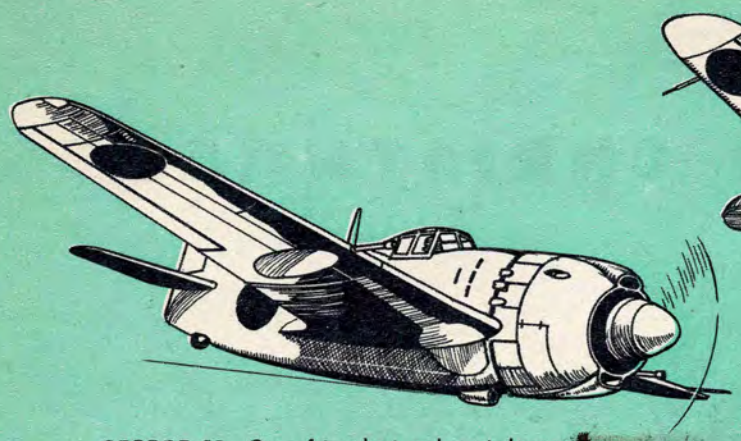
JACK 11. This land-based navy fighter had a 1800 hp radial engine; four 20-mm cannon; top speed, about 380 mph. Called "Raiden" (Thunderbolt); superficial resemblance to P-47.



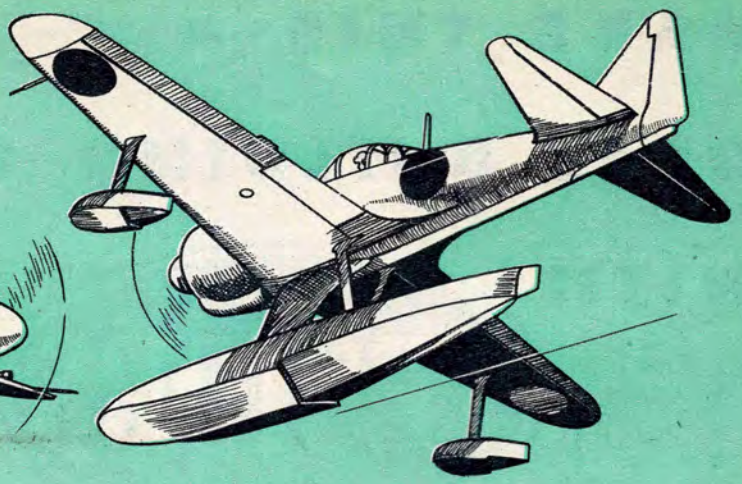
TOJO 2. Often rated as one of most potent Jap fighters, Tojo was produced only in limited numbers. 1,450 hp radial; fuselage and 2 wing M/guns. A number were equipped with 40-mm cannon in wings.

CLAUDE. Nakajima Type 96 was standard Jap fighter prior to Zeke. 800 hp radial engine, no armor or fuel tank protection but fast and maneuverable. Served in Sino-Japanese war.

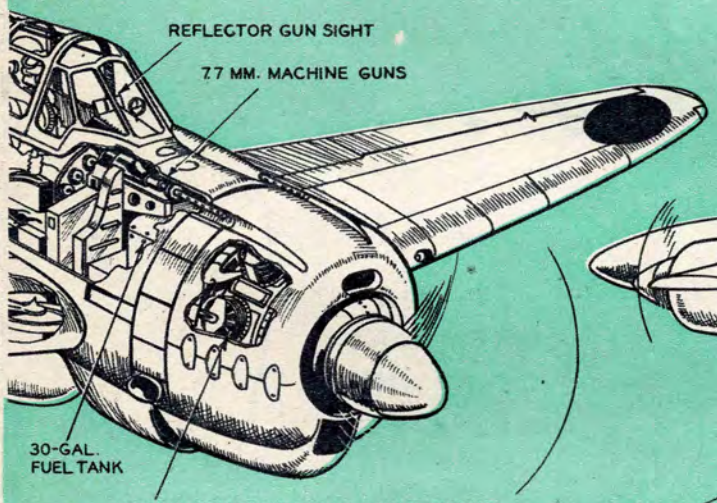
As remarked in the previous installment, the highly secretive and generally imitative qualities of prewar Japanese military aviation made it difficult to gauge its strength. It was generally thought, up to Pearl Harbor, that the quality of the Jap equipment and personnel was far below Western standards. Yet, our own aircraft were completely outclassed during the first year or so of the struggle. With this in mind the planes illustrated on these pages are limited to the more troublesome Jap fighters which outflew our best during the early days, and to some models which were in

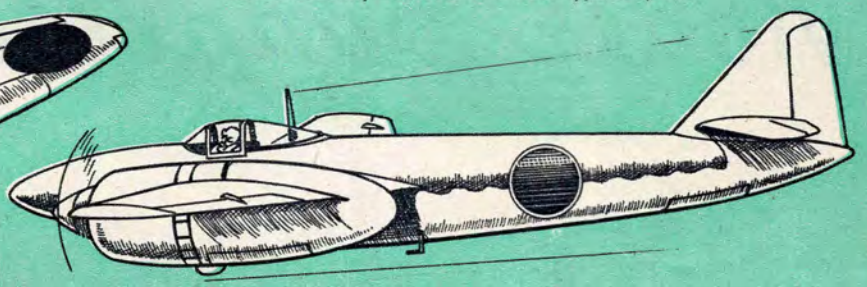


GEORGE 11. One of toughest and most dangerous land-based navy fighters toward war's end. 1,990 hp 18-cylinder radial; 4 20-mm cannon; heavily armored; top speed about 370 mph.

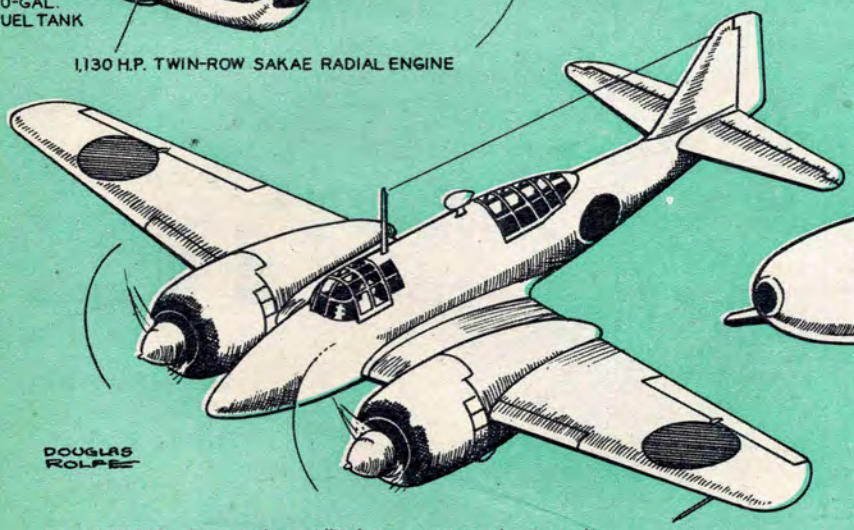


RUFE. Navy float version of the famed Mitsubishi Zeke. Encountered in the Pacific area during the first two years of the war, Rufe was noted for its maneuverability—unusual in a float type seaplane.



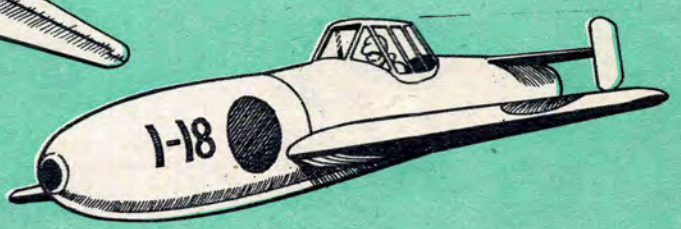


RANDY. Still in flight-test stage at close of hostilities, this heavily armed, long-range, twin-engine fighter was powered with two 2,200 hp 18-cylinder radials—top speed of 437 mph.



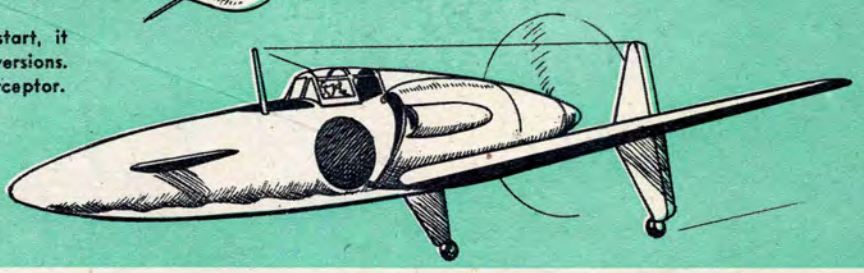
DOUGLAS ROLFE

DINAH. Faster than Allied types at war's start, it came in both reconnaissance and fighter versions. Later was used as a high-altitude interceptor.



BAKA BOMB. The Baka piloted bomb had solid fuel rocket 1760 lb. thrust engine and mounted 2,200 lb. war head. Top speed 535 mph. Launched from air.

SHINDEN J7W1. This unusual canard-type Navy interceptor was in flight-test stage at war's end. 2,130 hp radial, 6-bladed pusher propeller; 405 mph tops.



the development stage at the close of hostilities. These latter show a real talent for imaginative thinking and advanced design developed by the Japanese aircraft industry since the days when they merely copied Occidental designs. It can be noted, however, that nearly all these aircraft still betray strong Western influence—notably that of U.S. and German design. The fact remains that the lightly loaded, poorly armed and armored Jap fighters taught us some sharp lessons under combat conditions and their pilots proved much better than had been dreamed of.

MAKE THIS A MODEL-BUILDING CHRISTMAS WITH TESTORS

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FORMULA B
FAST DRYING
Strong!
TESTORS
MODEL AIRPLANE
Cement
FORMULA B
FAST DRYING
Strong!
FORMULA "A"
FORMULA "B"
MODEL CEMENTS
TESTORS
PLA
DECORATIVE ENAMEL
ELS
TESTORS
DOPE
INSIGNIA RED
TESTOR CHEMICAL CO. ROCKFORD ILL.
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CAUTION-INFLAMMABLE MIXTURE. DO NOT USE NEAR FIRE OR FLAME
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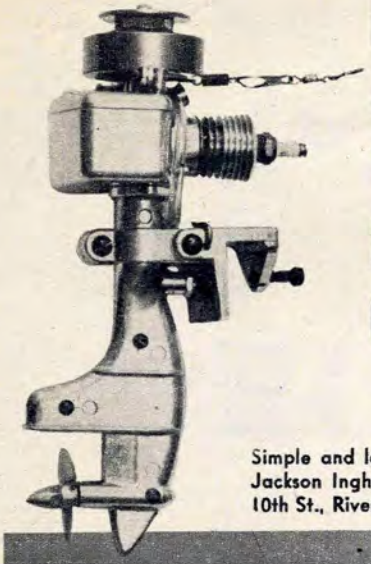
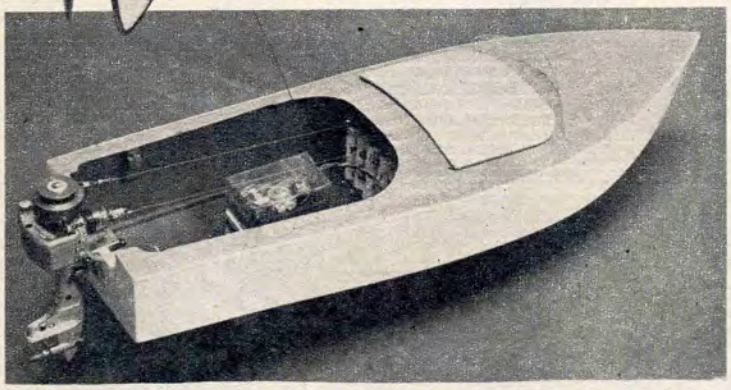
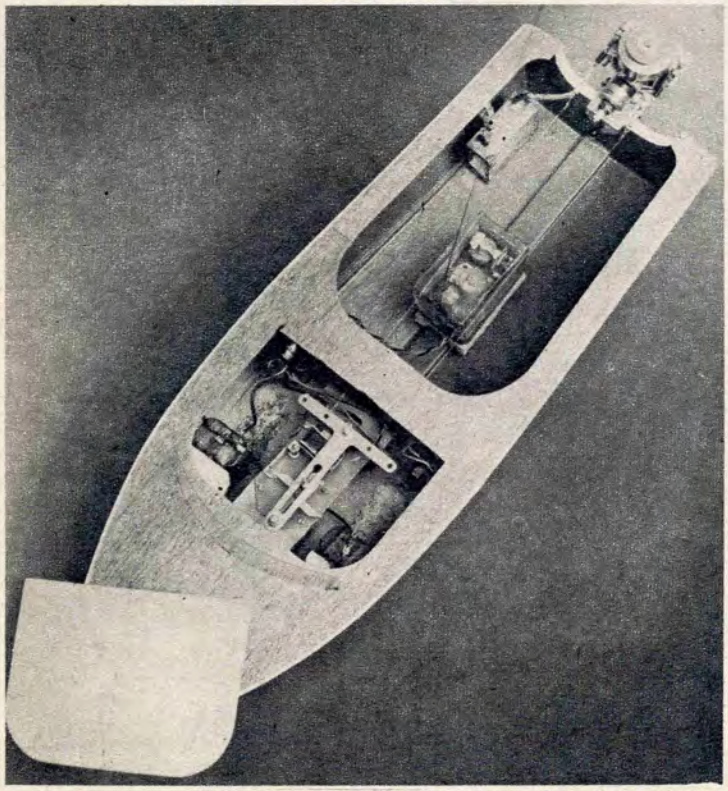


RADIO CONTROLLING YOUR MODEL OUTBOARD

Simple and logical is system devised by photoman Jackson Ingham, Jr. (Studio of Photography, 3765 10th St., Riverside, Cal.) to steer outboard via R/C.



Mr. Ingham besides being a good photographer is a fine model builder as the clean lines of this boat model attest. To turn the miniature glow-plugged outboard engine, he runs two steering wires to an E.D. clockwork escapement. This runabout is 21 inches in overall length. Jack plans also to add motor speed control.



With forward hatch removed you get a clear view of the steering mechanism and escapement installation. Note the large-size gas tank that has been installed at stern. Receiver is encased in plastic box to protect from spray or moisture. Batteries are placed to balance against weight of engine. "Boat is fast, fun"—JI.

JOB CAREER SCHOOL GUIDE

FOR YOUNG MEN

FUTURE BOAT DESIGNERS might be interested in knowing about the only school in the world that teaches you "how" in regard to small craft. Other schools like M.I.T. and the University of Michigan have courses in large ship design, but according to its founder and director the Westlawn School of Yacht Design in Montville, N. J., is the sole institution specializing exclusively in small motor and sail boats ("boats" generally being considered any vessel less than 100 feet in length). The course is by mail, takes two to three years depending on the student's ability, and costs $225 in cash payment or $250 on the installment plan.

Basic instructional material consists of 20 textbooks, and the problems teach you how to create and prepare plans for all types, including raceboats, runabouts, cruisers and auxiliaries, all kind of sailing boats and small commercial craft. The plans remain your property and form the basis for your stock file when you go into business. Most students are able to earn money before graduation, from preparing plans and advisory work. To qualify, a high school education is preferred.

You do not take any trig, algebra or calculus, the additional math you will need not going beyond higher arithmetic. This is merely a fact, and has no relation to the high caliber of the scientific training involved. About two-thirds of the men who have entered the boat-designing field in the past 20-odd years are Westlawn graduates. Gerald Taylor White, founder and director, is a member of the Society of Naval Architects and Marine Engineers, the Society of Automotive Engineers and the Society of Small Craft Designers. For all information, write to him at the Westlawn School of Yacht Design, Montville, N. J.

$8,000 IN SCHOLARSHIPS will again be awarded by the American Legion in 1955, in its 18th Annual National High School Oratorical Contest. For '55 the National Finals will take place at Blackwell, Okla. Watch your school bulletin board for the date, as well as the dates on all preliminary competitions. Again this coming year first prize will be $4,000 college scholarship, the other awards tapering down to a $500 scholarship for fourth place. Subjects for your speech must be on some phase on the Constitution of the United States. Any bonafide student in the 9th through the 12th grades as of coming January 1 is eligible. A rules brochure may be secured by contacting local Legion Posts.

SHOW THIS TO YOUR TEACHER. The government has available a booklet that will help you understand present atomic research in a very direct fashion. Called "Laboratory Experiments with Radioisotopes for High School Demonstrations," it contains 20 such experiments that can be safely conducted in biology, chemistry and physics courses. Illustrations. Price 30 cents. Give Catalog No. Y 3.AT 7:2 R 11/18, and address request to Superintendent of Documents, Government Printing Office, Washington 25, D. C.

FREE HOME STUDY SCHOLARSHIPS are now being offered by International Correspondence Schools (Scranton 9, Pa.). Only those students will be considered who cannot or do not plan to attend college. Scholarships consist of a choice of a number of regular I.C.S. courses

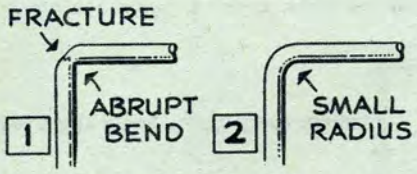
(*Continued on page* 92)

Landing Gears

. . . it's no harder to build 'em right

■ Most landing gears for gas model planes are made of steel wire. It is the most durable, the simplest, and no doubt the best all-round type gear for either free flight or control line models.

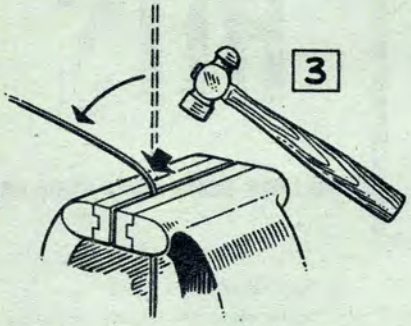
Once a few knacks are mastered, even beginners can produce excellent landing gears, and the same knowledge of wire bending, cutting and soldering is applicable to the building of take-off dollies and other miscellaneous wire parts



in all types of model airplanes.

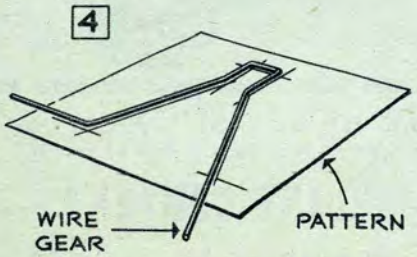
Tools and materials needed are a bench vise—the larger the better—a hammer, cold chisel, file, soldering iron, resin- or acid-core solder (or bar solder and a paste flux), and copper or annealed wire for binding.

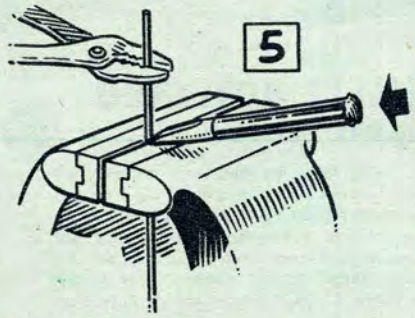
● Lightest A/2 models may use 1/16" diameter steel wire or even smaller; mid-sized models generally call for 3/32" diameter; larger jobs use ⅛" and occasionally 3/16" diameter steel wire,



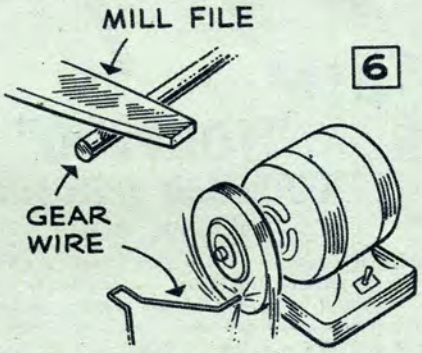
and the heaviest models sometimes resort to two- or three-strut steel wire gear types.

Bending wire properly is the fundamental thing. Avoid sharp, right angle bends (*1*) in fashioning cold wire as this often produces fractures which can cause subsequent failure. Instead, bend the wire with a small radius (*2*) to avoid trouble. Sharp bends when necessary, however, can be made if the wire is first heated, bent and then retempered by heating red hot and quenching in water.



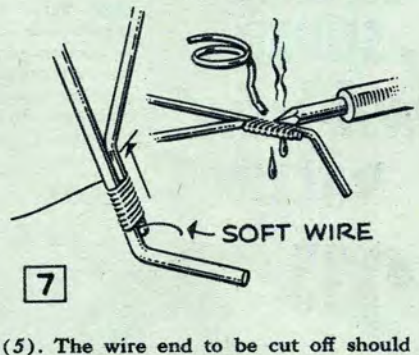


With one end of the wire held firmly in the vise jaws, the other can be bent by hand with a few licks of a hammer near the bend (*3*). Have a paper gear pattern nearby (*4*) and check the accuracy of the part by superimposing it from time to time. Small corrections in the angles can sometimes be made with



heavy pliers, depending on wire size.

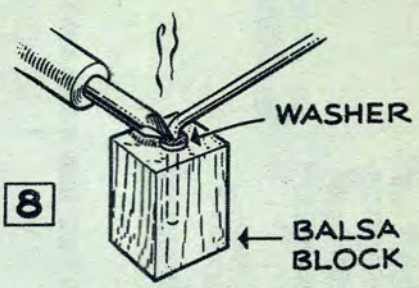
Cutting can be done by sawing with a hacksaw, but it is far easier to simply shear the wire off with a cold chisel, clamping the wire in the vise and striking the chisel smartly with a hammer



(*5*). The wire end to be cut off should be held by someone with pliers. Ragged ends of the cut wire should be dressed down uniformly with a file or on a grinding wheel (*6*).

When struts are joined, sand the wires to clean them for soldering, bind them neatly and tightly with soft annealed wire or copper wire, then sweat solder through the binding for a sound joint (*7*). Good soldering requires a well "tinned" iron which really gets hot, and the surfaces must be free of all dirt.

Clean washers and axles with sandpaper preparatory to attaching the wheels. The axle end can be forced into

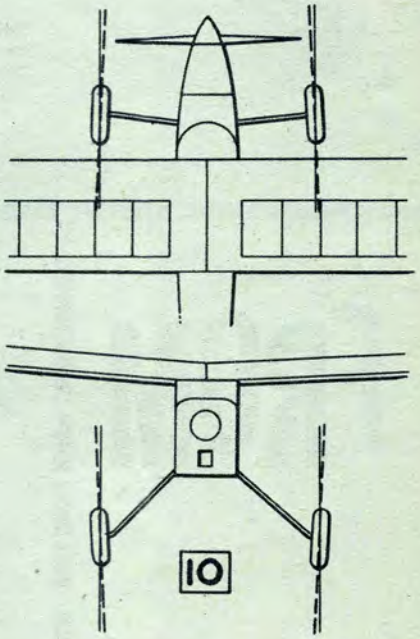


a soft balsa block after the inner washer is slipped onto it (*8*). The block positions the washer and holds it perpendicular during soldering. If acid-core solder is used, carefully wipe all traces of the

acid away with a cloth; coat with oil.

See that the wheels fit the axles snugly but freely, bush them with thin wall tubing if necessary, then slip on the wheels. With a piece of thin balsa or sandpaper as a spacer between the outside of the wheel hub and the washer, solder the washer in place (*9*).

Finally give the plane a careful top and front view inspection for wheel



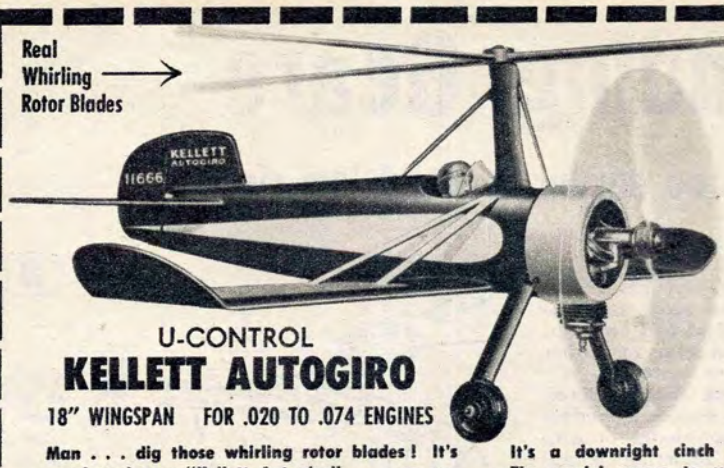
alignment (*10*). From the top view slight "toe-in" can be tolerated and from the front a little "camber" if desired in order to prevent the wheels splaying out.

Later we will discuss landing gear types, how to fasten them to the fuselage, shock absorbers, wheel "spats," etc.

By H. A. THOMAS

3 GREAT NEW SMASH HITS FROM SCIENTIFIC

Real Whirling Rotor Blades →



U-CONTROL
KELLETT AUTOGIRO
18" WINGSPAN FOR .020 TO .074 ENGINES

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Man . . . dig those whirling rotor blades! It's our brand new "Kellett Autogiro" . . . an authentic scale replica of this famous forerunner of modern day helicopters. You fly it just like any other control-liner . . . and get the big extra "thrill" of real whirling rotor blades. There's nothing complicated about its operation. It's a downright cinch to assemble and fly. The model comes to you completely prefabricated with a formed balsa wing, carved balsa fuselage, formed metal cowling, Jim Walker's U-Control, die-cut balsa tail assembly, rotor blades and struts, decals, hardware, etc., etc.

For any of the **OUTBOARD ENGINES** Gas or Electric

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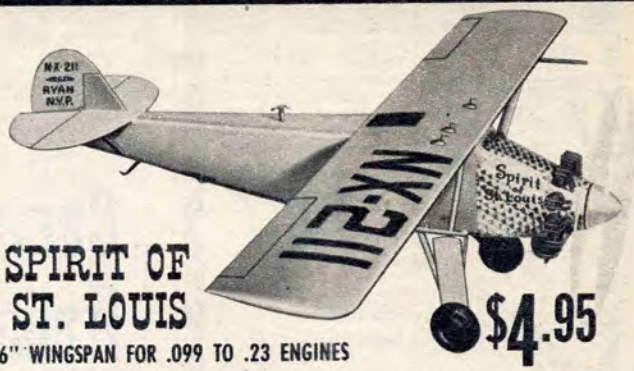

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SPAN: 18" For .035 to .074 Eng. No. Amer. fighter model powers with 1 or 2 engines. Prefabbed, with 2 carved fuselages, 2 cowls.

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SPAN: 18" For .020 to .074 Eng. Famous escort fighter model. Completely prefabbed. Features carved balsa fuselage, formed balsa wing.

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SPAN: 18" For .020 to .074 Eng. In honor of the F-86 (Sabre Jet). U-Control model. All parts cut and shaped for easy assembly.

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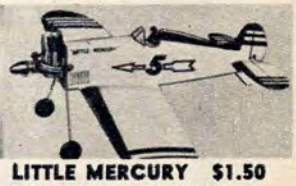

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SPAN: 16" For .020 to .074 Eng. Carved balsa fuselage bi-plane . . . prefabbed for easy assembly. It's control-line. A real value!

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SPAN: 18" For .020 to .074 Eng. A good U-Control performer at a remarkably low price. Completely prefabbed kit. Easy to assemble.

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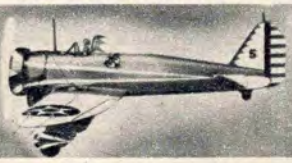
SPAN: 18" For .020 to .074 Eng. An economically priced U-Control model. Prefabbed parts include: formed balsa fuselage & wing, etc.

BEECHCRAFT "17" $2.95
SPAN: 16" For .045 to .099 Eng. U-Control, prefabbed model has carved balsa fuselage, formed balsa wings, metal cowl, etc., etc.



BOEING P-26A $2.95
SPAN: 18" For .020 to .074 Eng. An excellent control-line flyer. Prefabricated kit is complete in every detail . . . all parts finished.

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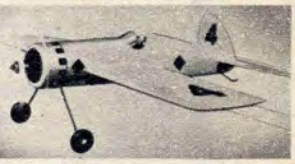
SPAN: 17½" For .020 to .074 Eng. Deluxe U-Control model. 100% complete - with carved balsa fuselage, wings, etc. Easy to assemble.



BEL AIR $2.95
SPAN: 18" For .039 to .099 Eng. A control-line flyer that's loaded with flying thrills. Prefabbed model has all parts finished.

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"½ A" Eng., CO_2, or Elec. Motors Our exclusive aeronautical fin and rudder design. Prefabbed model has 12" carved balsa hull, etc., etc.

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SPAN: 18" For .049 to .099 Eng. For team racing or sport flying. Kit is 100% complete with formed fuselage & wing, metal cowl, etc.

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For "½ A" Eng., Electric Motors Here's our sleek cabin cruiser. Has a removable balsa cabin, 14" carved balsa hull - 100% complete.

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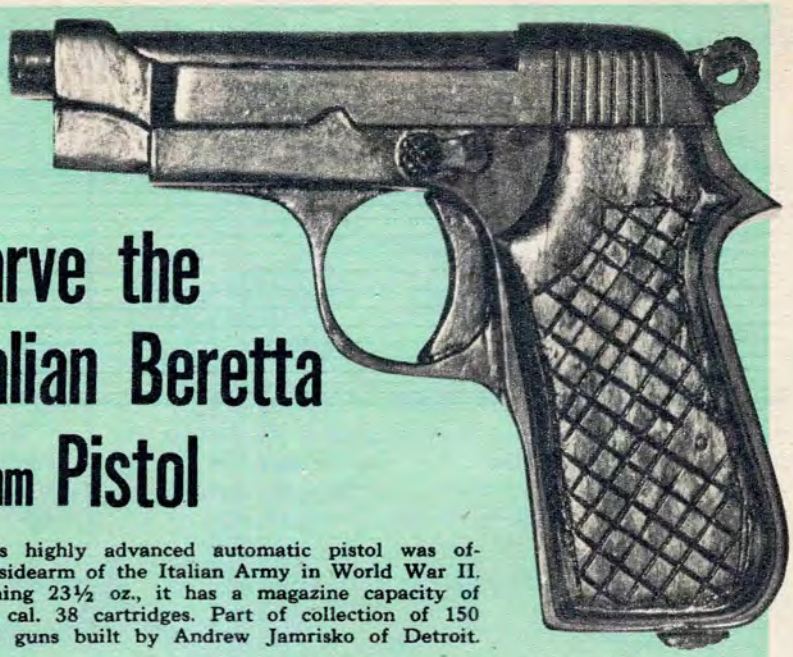
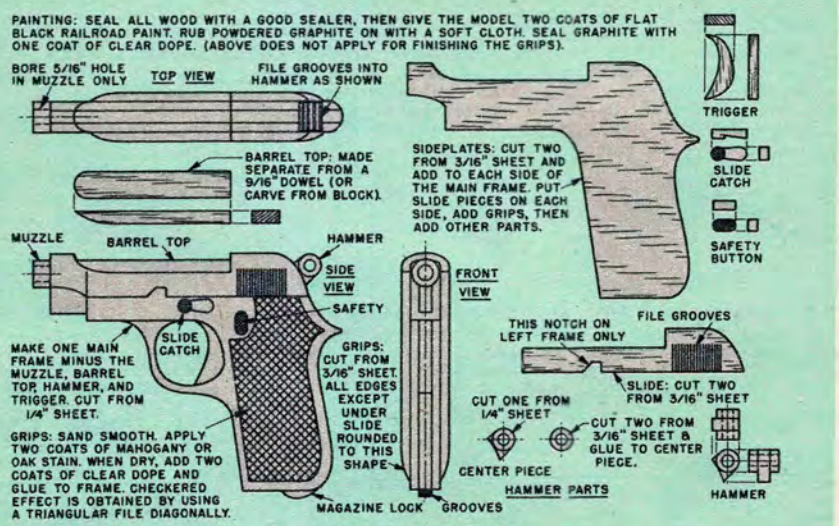


Carve the Italian Beretta 9mm Pistol

This highly advanced automatic pistol was official sidearm of the Italian Army in World War II. Weighing 23½ oz., it has a magazine capacity of seven cal. 38 cartridges. Part of collection of 150 model guns built by Andrew Jamrisko of Detroit.


PAINTING: SEAL ALL WOOD WITH A GOOD SEALER, THEN GIVE THE MODEL TWO COATS OF FLAT BLACK RAILROAD PAINT. RUB POWDERED GRAPHITE ON WITH A SOFT CLOTH. SEAL GRAPHITE WITH ONE COAT OF CLEAR DOPE. (ABOVE DOES NOT APPLY FOR FINISHING THE GRIPS).
BORE 5/16" HOLE IN MUZZLE ONLY
TOP VIEW
FILE GROOVES INTO HAMMER AS SHOWN
BARREL TOP: MADE SEPARATE FROM A 9/16" DOWEL (OR CARVE FROM BLOCK).
SIDEPLATES: CUT TWO FROM 3/16" SHEET AND ADD TO EACH SIDE OF THE MAIN FRAME. PUT SLIDE PIECES ON EACH SIDE, ADD GRIPS, THEN ADD OTHER PARTS.
TRIGGER
SLIDE CATCH
SAFETY BUTTON
MUZZLE
BARREL TOP
HAMMER
SIDE VIEW
SAFETY
SLIDE CATCH
MAKE ONE MAIN FRAME MINUS THE MUZZLE, BARREL TOP, HAMMER, AND TRIGGER. CUT FROM 1/4" SHEET.
GRIPS: CUT FROM 3/16" SHEET. ALL EDGES EXCEPT UNDER SLIDE ROUNDED TO THIS SHAPE
GRIPS: SAND SMOOTH. APPLY TWO COATS OF MAHOGANY OR OAK STAIN. WHEN DRY, ADD TWO COATS OF CLEAR DOPE AND GLUE TO FRAME. CHECKERED EFFECT IS OBTAINED BY USING A TRIANGULAR FILE DIAGONALLY.
FRONT VIEW
MAGAZINE LOCK
GROOVES
THIS NOTCH ON LEFT FRAME ONLY
FILE GROOVES
SLIDE: CUT TWO FROM 3/16" SHEET
CUT ONE FROM 1/4" SHEET
CUT TWO FROM 3/16" SHEET & GLUE TO CENTER PIECE.
CENTER PIECE
HAMMER PARTS
HAMMER

Plans are quarter scale

The Readers Write

Let's hear from you! Address all letters to Air Trails HOBBIES For Young Men, 304 E. 45th St., New York 17, N. Y.

Let's Not Belittle B-24 . . . Just finished your August issue, certainly great mag. On page 21 I found the scale of the B-24 listed as $\frac{5}{8}$"-1". Wouldn't that make the full-sized job a little small?

Doug Koeppen, Eggertsville, N. Y.

• Doug's right—we're wrong. Scale of the B-24 is $\frac{5}{8}$th inch to the foot.

Club Emblems . . . Our newly established model airplane club is interested in having club emblems. Could you please tell us where we could have these emblems made to sew on club jackets? Please relay information as fast as possible so we can enter your contest.

Tom Gilbert, Rock Rapids, Iowa

• We do not create club emblems—we only publicize them. Try your art instructor at school for help.

1954/55 Air Progress . . . Wonderful! That's all I can say about the 1954/55 Air Progress. I have been trying to locate information on the German Air Force for two years, and my new issue of the '54/55 A.P. is all I have to show for two years of disappointment. Where did you get it!

William P. Hart, Gooding, Idaho

. . . I have just finished reviewing the new Air Progress and I immensely enjoyed it. The magazine seems to exceed itself every year.

I was astounded by the article on the German Luftwaffe for it ranks as one of the best articles on secret German planes since your November 1945 issue of Air Trails. The Germans did indeed win the aviation research war, and many German designs are flying today. Take for instance the Me-P-1101/V-1 which bears a more than passing resemblance to the Bell X-5.

I want to thank the editors for this magazine and recognizing the need for such a magazine.

Tom H. Hitchcock, North Quincy, Mass.

. . . I have just seen your '54/55 issue of Air Progress, and I would like to compliment you on your excellent article, "The Incredible Aircraft of the German Luftwaffe." I would like to know how I can obtain 8 x 10" prints of all photographs in that section.

Tommy Georges, Los Angeles, Calif.

• Airphotos, Box 117, Jamestown, N. Y.; Aeroplane Photo Supply, Box 195-A Toronto, Ontario, Canada; Harry McIntyre, Box 423, Ocean City, N. J.; and Aeronautical Photo Service, 28 William St., Orange, N. J.

. . . I would like to know how I can get in touch with the manufacturers of: Pentecost Hoppi-copter (page 27, Air Progress), XH-20 Little Henry (same page), and Capitol Hoppicopter (page 33).

Thomas B. Whitfield, Houston, Tex.

• For information on both "Hoppis," write: Capitol Helicopter Corp., P. O. Box 1023, Schenectady, New York. The makers of Little Henry are: McDonnell Aircraft, St. Louis 3, Mo.

Mooney Mite . . . Could you please give me the address of the company that makes the Mooney Mite?

Max L. Cobb, Charlotte, N. C.

• Mooney Aircraft, Inc., Kerrville, Texas

Gyro Crusader . . . I hope I can supply some of the missing facts for the American Gyro Crusader AG-4A ("One of a Kind," page 66, '53/54 Air Progress): top speed—230 mph, cruising speed—210 mph, high speed on one engine—210 mph. Retractable landing gear, 36 ft. span, all-metal, except wing tips and control surfaces. In case of damage the wing panels outboard of the engine nacelles were removable, and new ones fastened into place.

Richard Waitt, Valley, Wash.

Radio Ham Training . . . I would like to receive the following information: Do you know any correspondence schools that offer courses on how to become an amateur radio operator (a "Ham")?

K. Gaidzunas, Brathenahl, Ohio

• For all information on how to become a "Ham" operator, write to the American Radio Relay League, West Hartford, Conn.

Just Ask Us . . . Where could I obtain some written matter pertaining to serial numbers on Air Force airplanes? I have in my possession James Fahey's "U.S. Army Aircraft." This book has helped somewhat, but would like to find more information on the serial numbers.

Peter Vincent, Reading, Mass.

• We believe you will find very interesting information in the article, "How to Apply Air Force Plane Markings," appearing in this issue.

USAF Civilian Jobs . . . In regard to the article on obtaining civilian jobs with the U.S. Air Force at overseas bases in "Job Guide" in the September, 1954 issue of Air Trails Hobbies, I would like to know where I could write for more information about these jobs.

Stafford M. Ford, Oskaloosa, Iowa

• Try contacting the Air Force Base that handles such applications in your territory. Address Offut AF Base, Omaha, Nebraska, attention of Public Information Officer.

You might also write to the United States Civil Service Commission, Washington, D.C.

There is a government booklet you can get, called "Federal Jobs Outside the Continental United States," Pamphlet 29 (CS 1.48:29), which costs 15 cents. For this, write to the Superintendent of Documents, Government Printing Office, Washington 25, D. C.

Beco B-5 . . . In Air Progress, 1953/54 edition, on page 66, one of the pictures used to illustrate Mr. Warren Shipp's article, "One of a Kind," was a shot of the Beco B-5. Although it has been some months since your book hit the stands, perhaps a few words about this plane would not be amiss.

As to Mr. Shipp's question: "Why didn't it become popular?", I might state that very few airplanes were popular at that time, 1936, insofar as the great majority of aviation enthusiasts were concerned. There wasn't any money available for such luxuries, that's all. Those were depression days. I know!

About 1940 or '41 I became acquainted with Mr. Harvey Beilgard, who owned this plane, and tried to assist him to secure financial backing to put this ship into production. The idea was to get enough money to purchase materials for ten planes, sell these at a nominal profit and then modify the plane enough to make it eligible for competition for a Government contract, in the liaison plane classification, a role for which it was well suited, with its slots and flaps and small-field ability. But we were unsuccessful in our efforts and, somehow, I lost contact with Mr. Beilgard. I do not know what finally became of the plane. At the time I was interested in it it was hangared at Clover Field, Santa Monica.

This aircraft was very well constructed, mostly steel tubing, fabric covered. My understanding was that it was designed by Mr. Larry Brown, designer of the famous Brown racers.

Perhaps your representative in the Los Angeles area can look up Mr. Beilgard. He was living in Beverly Hills. He would be worth looking up, as he would be a fine source of information for an article on the old flying circus days. "Demon" Beilgard was stunt man then. His scrap book is won-

(*Continued on page 59*)

Announcing an entirely different kind of model plane engine . . .

NEW!

TURB-O-PROP

GAS TURBINE PROPELLER

1. Jet-Tex fuel capsules are loaded into air-tight chamber.
2. Jet fuse extending into combustion chamber is lighted here and ignites fuel.
3. Gas from burning fuel is forced out jet-like prop tubes.
4. Prop revolves at extremely high speed with jet thrust of tubes.

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- Absolutely no torque — but super-powered jetlike thrust!
- No prop cranking to start—just fuel up and fire the fuse!
- 1 oz. with fuel and engine mounts.
- Makes smooth, humming engine sound in flight
- Guaranteed performance.

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ATTENTION DEALERS: Write for complete information. Special demonstration offer. Thousands of Turb-O-Props ready for delivery, ready for the demand which this news will bring. Get in early on the most important model plane development in twenty years. Order through jobber, or direct from us.

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GAS TURBINE PROPELLER

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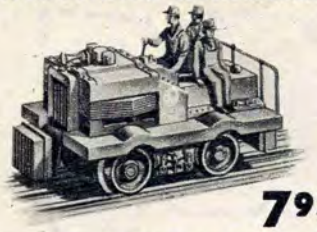

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- LAY AWAY or TERMS without interest.
- We aim to keep complete stocks at all times, but "to be sure" ORDER TODAY—orders may be held 4 months.
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2321	Twin motor F-M Diesel Switcher	$43.50
6250	Seaboard Diesel Switcher, new	25.00
2065	Loco. w/smoke, Wh. Tender & New Water Feed	32.50
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2356	Southern Railway A & A or A & B Diesel, new	47.50
50	Motorized Gang Car, yellow-red & green, new	7.95
140	Banjo Crossing Signal, new	5.95
282	PORTAL GANTRY CRANE with electro-magnet, new	15.95
761	0-72 Curved Track .45 ea.; box of 16	7.20

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BRAND NEW CARS ORDER TODAY

6014	Junior Bright Red Baby Ruth Box Car	2.95
2432	12" Vista Dome to match 2400 series cars	8.95
2530	16" Alum. Bag. to match 2531 etc.	10.95
3482	Oper. Milk Car & Platform	10.50
3461-25	New bright green op. Lumber Car	7.25
3562	OPER. BARREL CAR A MUST, new	8.95
6356	New 11½" scale double door Stock Car	5.95
6446	11½" covered Cement Hopper Car, new	5.95
6456-25	New grey with red lettering Hopper Car	4.75
6460-25	Work Crane with bright red cab	7.95
6464-100	New 11½" scale W.P. FEATHER RIVER Car	5.50
6464-225	New SP BLACK Overnite Express	5.95

REPLACEMENT LOCO'S & TENDERS

1130	2-4-2 Loco w/Tender, Knuckle Coupler	9.92
2037S	2-6-2 Loco w/Magne Traction, Sm.	14.50

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WH-11S	2037 LTS 3 Car Freight	*26.95
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WH-15S	2037 LTS 5 Car Comb.	*46.95
WH-21	623 4 Car Diesel Freight	39.95
WH-23	2356SW 5 Car Freight	52.50
WH-26	2321 FM Twin Motor 3 16" Alum. Passenger	75.00
WH-27	682 7 Car Comb. Freight & Pass.	85.00
WH-28	Twin Motor Diesel in 8 Car Fgt. set	85.00

Plus 11 other sets 39.95 to 99.95.

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'Round the Track

Interested in model cars and scale vehicles? This is your department. Let's have your news and pix

■ The AMRCA Nationals are over for another year, and from all reports the 1954 races at Anderson, Ind., were the best ever held. We will have a full story in the "Model Annual" on this meet, so will give just a few notes on it here. Apparently the city fathers were most helpful, with the mayor himself cutting the tape for the start of the festivities on Thursday morning and giving a short speech of welcome to the assembled racers. The mayor also asked personally that the Nationals be held in Anderson again in 1955, and the unanimous vote among the racing men present was to do just that.

Qualifying races were held the first two days, with the final events on Saturday. Top winners in the various classes were: Custom Proto—Joe Kantrow Jr. (Detroit, Mich.), 1234 car at 147.78 mph; Custom Sportsman—Carl Noward (Toledo, Ohio), 1234 car at 130.43 mph; Spur Gear—Howard Fox (Bethlehem, Pa.), Borden car at 141.07 mph; BB Class—Guy Richards (Akron, Ohio), Invader at 116.58 mph. Good sportsmanship prevailed throughout, one reason why the meet was such a success. While the boys were shooting at the new record (details below) that had been made by Walter Wilson Jr., no one could top it—including Walter himself, who ended up at 11th place in the Custom group. A very fine banquet at Linder's restaurant, interesting movies loaned by the Champion Spark Plug Co. and covering all sorts of racing, and television coverage all helped to pep up the proceedings.

All the cars owned by the late Glenn Mathews were purchased by his personal friend, Philip J. Rich of Roscoe, Ill.; Mr. Rich has joined the AMRCA and expects to keep these fine cars in the thick of the competition.

The present World's Record for the Custom Proto class—151.77 mph—was set on June 20 at the Anderson (Ind.) track. Walter Wilson, Jr. is the new holder, his car being a product of Charles Flynt of Belleville, Ill. Some of the motor work was done by Carl Noward. Walter has been active in miniature car racing since 1946, and is also active with model boats and planes.

Believing that some of our readers in different parts of the country might want to get in touch with local "wheels" in the car racing game, we give below some of the most active car men, with thanks to Bill Baughman of Los Angeles, who sent in these names: Keith M. Rouse, c/o Mercury Auto Service, 1540 Lincoln St., Denver, Colo.; Bill Wunderlich, 5211 Conti St., New Orleans 19, La.; Norm Murray, Elysian Miniature Race Car Club, c/o Elysian Playground, Los Angeles, Calif.; John L. Sybrandt, 210 6th St., Wilmette, Ill.; Wm. T. Thomas, 105 N. Halifax Ave., Daytona Beach, Fla.

In addition to these, you can get the latest pitch on car racing from individuals whose names appear in these columns quite frequently, especially Carl Noward, 1384 Berdan Ave., Toledo 12, Ohio, and Bob More, 66 W. Elizabeth Ave., Bethlehem, Pa. As a matter of fact, if it weren't for these last two gentlemen, we would have very little info on the miniature race car hobby in ATH—thanks, fellas! Incidentally, we fear that Carl tends to hide his light under a bushel; readers will note that he had a hand in pepping up the engine on the car that holds the Custom Proto record; actually, Carl builds cars and does hop-up work on a custom basis; five of his cars qualified at the Nationals this year, and his own Custom Sportsman won that event.

We have received a note from Ron Fenelon (205S Grover Rd., Jefferson Barracks, Mo.) enclosing a short article taken from the St. Louis *Post-Dispatch*. Seems a gentleman by name of Alan Tamplin of Birdham, England, has built himself a most unusual "vehicle"—a motorized and radio-controlled ale barrel! Mr. Tamplin (whom we believe is quite active in English R/C circles) simply presses a button beside his chair and out rolls "Nellie" the barrel; she can make any number of turns to get to her master's side, whereupon she stops and pours out the required number of glasses full. Seems Nellie can do everything but drink 'em! And all by R/C on the 465 mc. band. Nellie can hold 560 pints, and also has compartments for soft drinks. Pictures of her later appeared in *Life*.

To get back to Ron, he says he is building an R/C car (we just *have* to ask if it is to be another Nellie) powered by a Fox .19 and is in doubt as to what mechanism (*Continued on page* 67)

(*Continued from page 57*)

derful. Also, you might be able to learn something of his experiments with butane in the Lambert engine in the Beco. Also, he told of methods of building things of stainless steel which were fascinating.

Please do not discontinue Air Progress. I love the old planes, and Douglas Rolfe's drawings are something special.

George Mazon, Roseburg, Ore.

P.S.: The last time I saw the "Crusader" (page 66) it had come to an ignoble end in one corner of a hangar at Metropolitan Airport, Van Nuys, California. It was a beautiful job. This was about '41 or '42.

HOBBY CALENDAR

List your hobby club's public shows, exhibitions and contests here! There's no charge. Advise "ATH" not less than 90 days in advance. Give telephone of contact man if possible.

Address of contact man is in the same city as site of event unless otherwise specified.

IND—Indianapolis, Nov. 13-21. Indiana Hobby & Gift Show at Mfg. Bldg., State Fairground, sponsored by the Indianapolis Star, Box 6089, Indianapolis 20. (HU 1212).

SO. CALIF—Nov. 14. F.A.S.T., Club's air-model team races. Keith Storey, 8509 Higuera St., Culver City.

CALIF—Bakersfield, Nov. 14. Central Valley Model Airplane Association's Championships. Francis Stewart, 900 21st St.

SO. CALIF—Dec. 12. F.A.S.T. Club's air-model team races. Keith Storey, 8509 Higuera St., Culver City.

FLA—Miami, Dec. 29-31. King Orange air-model meet sponsored by Exchange Club. W. M. Buchholz, 35 S.W. 8th St.

NATIONAL COMPETITIONS

- Industrial Arts Awards annual competition sponsored by the Ford Motor Co. More than 1500 individual awards valued at $45,000 are given each year. Open to school students in grades 7 through 12 enrolled in shop, drawing or printing courses. For information write Industrial Arts Awards, Ford Motor Co., 3000 Schaefer Road, Dearborn, Mich.
- National High School Photographic Awards open to any high school student. Total of 256 prizes amounting to $5,000 in cash. Ends March 31, 1955. Details on entering from National High School Photographic Awards, 343 State St., Rochester 4, N. Y.
- Fisher Body Craftsman's Guild sponsors car design and model building contest. $20,000 in scholarships plus numerous state and regional awards. For details write Fisher Body Craftsman's Guild, General Motors Bldg., Detroit 2, Mich.

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This airplane is made of genuine light weight . . . BALSA WOOD

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Complete with Instant Starting Space Bug Jr. engine

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If no local dealer is convenient, mail orders will be filled by Enterprise Model Aircraft Dept. T 5, Mineola, N. Y. Please include 25c packing and postage.

World-famous Inventor Charles F. Kettering, Director of General Motors, congratulates James C. Fry of Clinton, Illinois, 1954 winner of the $4,000 Junior National Award Scholarship.

HOW'D YOU LIKE TO BE IN THIS PICTURE?

Of course, you would.

And, if you are the kind of youth who likes to make your own ideas work—do things with your hands — you have a very real chance to be.

For—like Jimmie Fry—you have the opportunity to win one of the big awards in the Fisher Body Craftsman's Guild Competition.

All you have to do is design a solid model car — whatever type appeals to you most. (The top Senior winner in 1954 was a sports car model.) Then you build it out of wood or some other workable material. Sand it smooth. Paint it. And the job's done.

Don't get the idea, though, that it's the easiest job in the world. It'll take concentration and stick-to-itiveness.

Yet — as the hundreds of previous winners will tell you — it's more than worth every minute you put into it. Not only because of the chance to win one of the awards. But of the deep-down satisfaction of doing a job completely on your own—and doing it well.

So—there's the challenge!

Have you the ambition and the will to meet it?

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734 Awards—in all

8 University Scholarships (ranging from $1,000 to $4,000 each)

All-Expense Trips to Exciting 4-Day Guild Convention

Cash Awards up to $150 in every state and the District of Columbia

Identical Awards for Junior and Senior Groups (If son of General Motors employe wins, his award is duplicated for the next boy)

FISHER BODY CRAFTSMAN'S GUILD

General Motors Building
Detroit 2, Michigan

Please enroll me in the Fisher Body Craftsman's Guild Competition for 1955. Also — send me the Craftsman's Guild membership card plus instructions for building model. This will be sent FREE and without obligation.

Name_____

Address_____

City and Zone_____ State_____

I was born on the_____ day of_____ 19____

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My Parent, or Guardian, is_____, or is not_____, employed by General Motors or a GM dealer.

(If Parent or Guardian is so employed, please give name of division or dealer below:)

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Name of my school_____

City_____ State_____

Dept. D-2

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U. S. ARMY AIRCRAFT, 1908-1946
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An illustrated history of the military airplane listing more than 2,000 models and modifications of Signal Corps, Air Service (A.E.F.), Air Corps and Air Force aircraft of heavier-than-air types. Who built them. When. How many. Weights and dimensions. Engine data. The 1949 supplement describes the "interim" postwar Air Force; includes the New and Old aircraft designations as revised in 1948. The 480 illustrations in the booklet and supplement include many rare views from government and private collections.

Price: One Dollar and a Quarter ($1.25) Postpaid. Sorry—no C.O.D.

And—Fahey's famous "Blue Books"

OUR NAVY AS OF V-J DAY 1945

THE VICTORY EDITION (FIFTH) "SHIPS and AIRCRAFT" OF 1945

The world's greatest Navy at its V-J peak! Our most complete listing of Navy and Coast Guard vessels arranged by types and classes, with names, numbers, dimensions, tons, guns and other data. Ship losses, citations; index of named vessels. 96 pages, 246 illustrations; 188 views of wartime ships, 58 of aircraft. The "Victory" edition is a must for all persons interested in the Navy side of World War Two.

Price: One Dollar Postpaid (No C.O.D)

Two other issues of "Ships and Aircraft" are available: First Edition, 1939, describing the pre-war Navy, fifty cents a copy; the Sixth Edition, 1950 with 1952 "Ko-War" addenda, two dollars a copy. (6th ed. reprinted late 1954 with minor revisions.)

The 1941, 1942 and 1944 editions of "S. & A." are now out-of-print—supplies exhausted.

Watch AIR TRAILS HOBBIES for announcement of the "Seventh Edition"—now in work.

SHIPS and AIRCRAFT
2033 RHODE ISLAND AVE., N.E.
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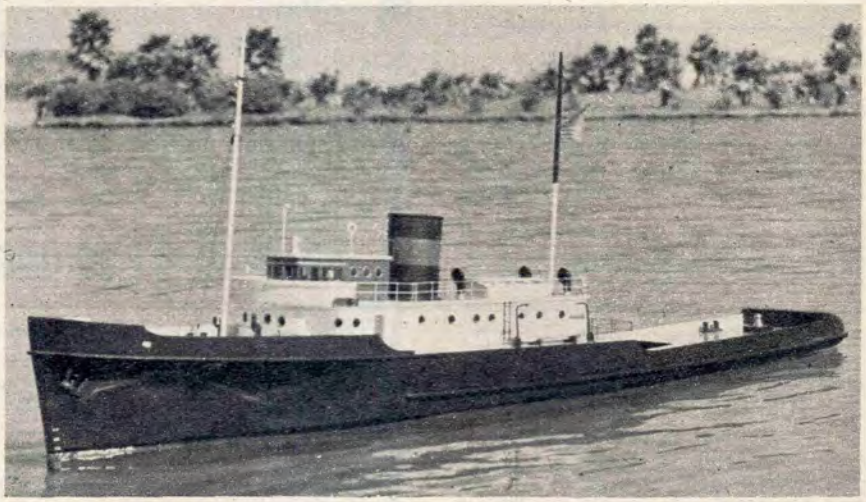
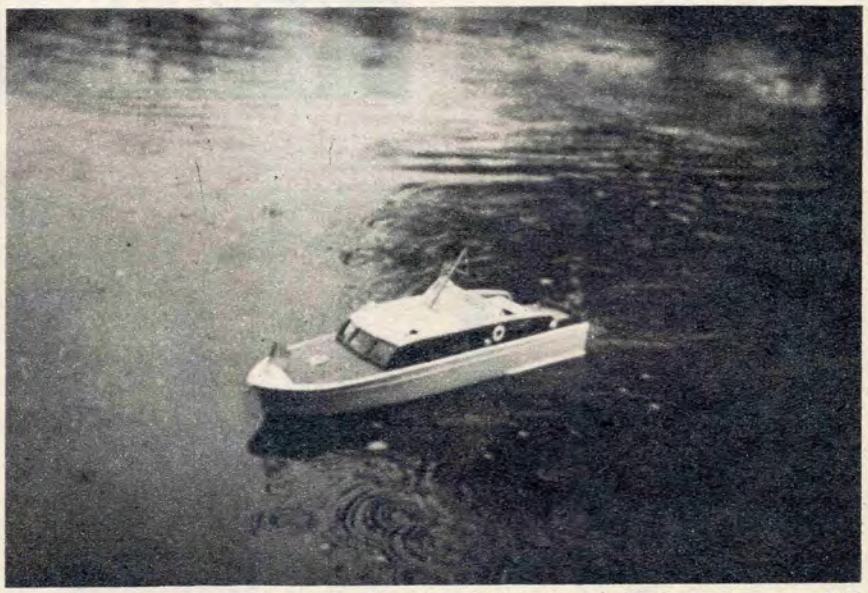
REALISM-IN-MODELS PHOTO CONTEST

BOAT WINNERS

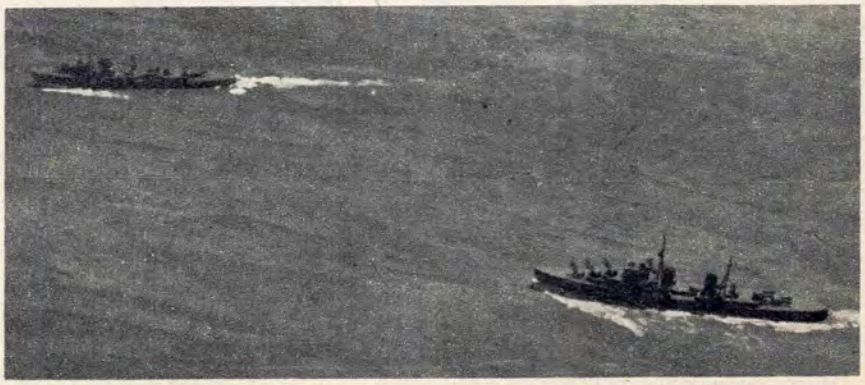
This is the last in a special series of photo contests for miniature subs, vehicles, planes, cars, boats. So much interest was shown, the editors are pleased to announce that one or more "realism-in-models" awards will be made each month. Each winning photo brings $25!



First award ($50) to Lowell R. Lamb of Los Angeles whose pix of his own 53" salvage tug "Zwarte Zee" topped all entries. Scaled ¼ inch to foot; radio control (ECC); steam power.



Tranquil scene at Saugatuck, Mich., shot by Bud Whipple 2nd ($25). Boat was an R/C Chris-Craft built by Mrs. Howard McEntee! Photo was made in the rain during McEs' vacation.



"Java Patrol—1941" by William W. Alexander of Grand Rapids, Mich., placed 3rd ($10). Tiny, one-inch-to-100-ft. models by Clark W. Wierhake and WWA. Clay water, flour wakes.

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FLY THE *Springfield* FLEET!

Biplanes... $1.50

Spirit of St. Louis... $5.95

Amphibians... $1.95

Free Flight & Radio-Controlled Scale Models NOW ready at your local hobby shop! A real holiday thrill you just can't miss! Model builders are already talking about SPRINGFIELD MODELS' 3-hour assembly jobs because they're a snap to build, a joy to behold and a positive wonder to fly! These ½A replicas of historic aircraft have been brilliantly engineered by big-name designers like NATE RAMBO. The SPRINGFIELD kits come complete with all die-cut and pre-formed parts, including wing camber and dihedral, decals, ready-to-go landing wheels and much more. They take a .020 or .035 engine.

SPRINGFIELD MODELS, INC., 964 Springhaven Road, Springfield (Morton), Penna.

A.I.S.C. Scholarships

(*Continued from page* 27)

interests, they are carefully evaluated along with your ratings in the other factors on an individual basis.

Among this year's ten winners, sports like basketball, football and water polo were represented, and clubs like science, chess and checkers and modelplane. Some winners had been active in Scouting, some had worked summers or part-time, some were class officers. . . . Incidentally, the other 1954 winners in addition to the ones shown in the photographs were John R. Mertens, Oak Park, Ill.; James A. Staley, New Milford, Ohio; George L. Stern, New York, N. Y. and Alvin P. Mullery, Providence, R. I.

But on this matter of getting nominated in the first place—suppose you don't know of any steel fabricating company in your vicinity, or even in your part of the state. Is it still possible to become a candidate in the national competition? Yes! The geographical areas taken in by the individual companies vary, and other factors may have a say as to their "territory," scholarship-wise. The firms may nominate a candidate from another city, and possibly from across a state line. If no company operates in your immediate section, your first move is to ask your high school principal to find out the name of the nearest company and contact it.

In case he is unable to obtain this information, and if you are sincerely interested, you may get the name of the nearest company by writing directly to the Committee for Education, American Institute of Steel Construction, Inc., 101 Park Ave., New York 17, N. Y. A copy of the rules pamphlet governing the

(*Continued on page* 66)

Nothing BEATS AN IDEAL MODEL

Every Ideal "Easy-to-assemble" kit will bring pleasure and satisfaction to model hobbyists because they are best in design, materials and workmanship. No special ability is required. Whether you buy a Historic Boat, an Operating Model or Tiny Town Building, you can be sure that every part is designed to fit. There is no "guess-work" in an Ideal Kit.

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The UNITED STATES

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OPERATES WITH GAS or ELECTRIC MOTOR

Length 18"

NEW OPERATING MODEL

Completely prefabricated with die-cut plywood, mahogany veneer and balsa parts. Metal rails, light, horn, wheel, etc. Preformed sides and bottom.

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Sea Weed Sail Boat	16"	3.95
Aqua Pal Skiff	16"	1.50

$3.95 WITHOUT MOTOR

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DESIGNED FOR RADIO CONTROL!

Exact replica of the fabulous Queen of the Sea... ultimate realization of every model builder's dream! Like all Sterling kits, completely prefabbed!

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For Class A, B & C Engines Kit B-11M.....$18.95
Deluxe 108 pc. Scale Marine Fittings, Set B-11F..... 7.50

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Deluxe 34 pc. Scale Marine Fittings, Set B-6F..... 3.50
CENTURY SEA MAID '20' Kit B-8M..... 7.95
Deluxe 35 pc. Scale Marine Fittings, Set B-8F..... 3.95
CHRIS-CRAFT 50' CATALINA Kit B-7M..... 11.95
Deluxe 66 pc. Scale Marine Fittings, Set B-7F..... 4.95
HARCO '40' DELUXE CABIN CRUISER Kit B-10M... 10.95
Deluxe 64 pc. Scale Marine Fittings, Set B-10F.... 4.50

Chance-Vought CORSAIR F4U-1

SCALE CONTROL LINE MODEL

Authentic replica of the world-famous U.S. Navy carrier-fighter, the incomparable CORSAIR... designed for U.S. Navy Carrier Event Flying!

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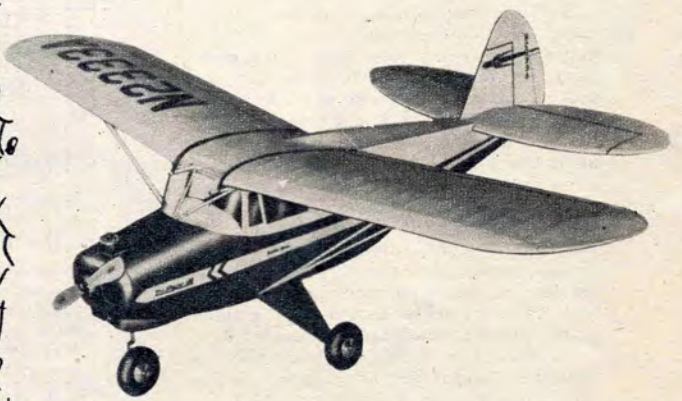
DESIGNED ESPECIALLY FOR RADIO CONTROL!

Completely pre-fabbed to scale from factory plans, it's the world's first scale model plane designed especially for radio control. Ideal for sport free flight and control line flying.



Span 58¾" Length 39½"
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PERFECT SCALE MODEL!

So real, you'll feel yourself at the wheel! So complete, all you need is paint, glue, and a motor! All die-cut parts, with carved lower hull.

Length 19" Beam 5"
For ½A gas engine or electric motor.
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including all marine fittings.

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THE RING MASTER
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Created by Matt Kania, world-famous model designer, the Ring Master will do everything in the book—and then some! The last word in stunt combat flying thrills! Easy to build.

Span 42"
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Other Sterling Control Line Stunt Models

F-51 MUSTANG Kit S-2.....$2.95
YAK-9 Kit S-3..... 2.95
SPACE MASTER JR. Kit S-4..... 2.25

SEA DART
PLASTIC 3-POINT OUTBOARD HYDRAPLANE!

Designed especially for the new gas outboard engines, it's a speed demon in action! Entirely fabricated of high-impact Styron plastic.

Length 16" Beam 6½"
Kit B-12.....$3.95

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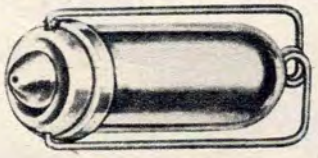
JET POWERED FLIGHT AT LOWEST COST with JETEX JET ENGINES

Jetex brings you power packed performance for pennies! No other form of model airplane engine brings you so much enjoyment, so many flying thrills as Jetex jet engines. Initial cost is lowest; operating costs are very moderate . . . there's nothing to break or wear out with Jetex. Dependable, enjoyable, and economical—that's why so many modellers prefer Jetex.



THE JETEX "STANDARD" No. 50

Most popular of the Jetex engines. Proven dependability and performance in hundreds of thousands of flights. Including fuel; spare parts. $1.95
Wt. 2 oz., Fuel wt. .2 oz., Thrust .6 oz., Length 1⅜", Diameter 11/16". Fuel — 15 pellets and wick. $1.

THE JETEX "ATOM" No. 35

Specifically designed for small, lightweight, models such as the Jetex P-13. Uses a shaped fuel pellet for constant thrust. Including fuel; spare parts. $1.75
Wt. .15 oz., Fuel wt. .10 oz., Thrust .5 oz., Length, 1½", Diameter 9/16". Fuel — 8 pellets and wick 50¢

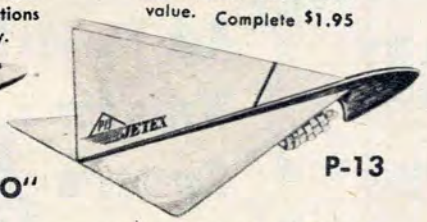
F-102

Semi-scale delta wing model of the newest and hottest U.S. Air Force Jet. Powered by the Jetex No. 50 for outstanding high speed performance. All die-cut balsa parts and complete instructions for easy assembly.

Sold complete with Jetex No. 50 engine and fuel. Excellent value. Complete $1.95

McDONNELL F88A "VOODOO"

True scale model for the Jetex No. 50. Kit includes all balsa die-cut parts. Features AEROFORMED* construction.
*TM reg. $1.25



P-13

Spectacular flying with either the No. 35 "Atom," or the No. 50. Easy to build from all precut balsa parts. 60¢

AMERICAN TELASCO LTD., Huntington, N. Y.

"RAPID-PULSE" Stick Controller

The Rapid-Pulse Stick Ground Controller is simple, complete, and self-neutralizing. Move the control stick in the direction of the control desired - right, left, up, or down in any order. In addition, three auxiliary control circuits are provided which are controlled by the buttons on the stick box.

With the Rapid-Pulse Stick Controller, model response is almost instantaneous providing FULL CONTROL throughout intricate flight manouvers.

$13.95

PRESENT OWNERS!! Write in for liberal trade in of Rotary Ground Controller on new RAPID-PULSE Stick Controller.

ECCO MULTITROL ESCAPEMENT & RAPID-PULSE STICK CONTROLLER

$26.95

WRITE FOR COMPLETE DETAILS

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YOUR MONEY BACK - IF YOU ARE NOT COMPLETELY SATISFIED

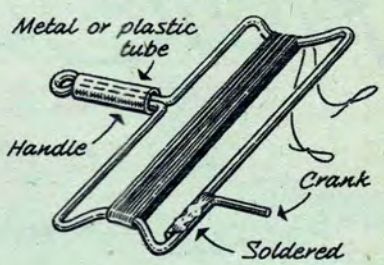
The Ecco Multitrol Escapement, together with the Rapid-Pulse Stick Ground Controller, provides everything the radio control enthusiast could desire. With the Multitrol Escapement, both rudder and elevator are fully controlled. Three additional control circuits may be selected through distributor contacts on the escapement for use as motor control, elevator trim, etc. The Ecco Multitrol Escapement provides full multiple control with any single or multiple channel radio equipment.

$13.95

ECCO MULTITROL ESCAPEMENT

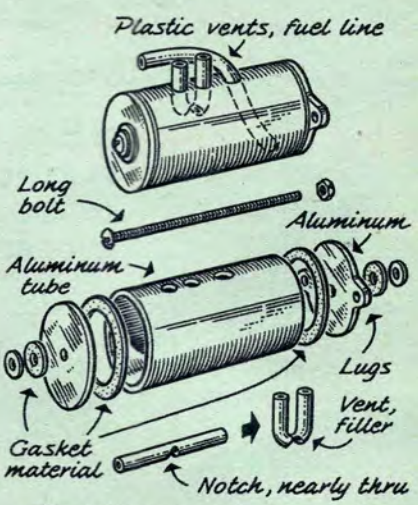
* Formerly ECCO Mfg. Co.

Coat hanger wire is bent to shape for use as reel to hold nylon A/2 control lines . . . By Alan Lease, Rome, Ga.

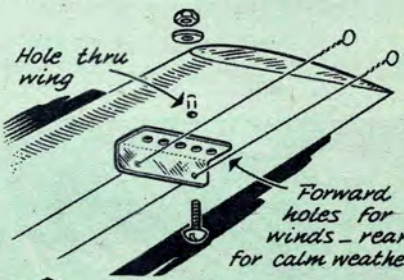


MODELPLANE Sketch-book

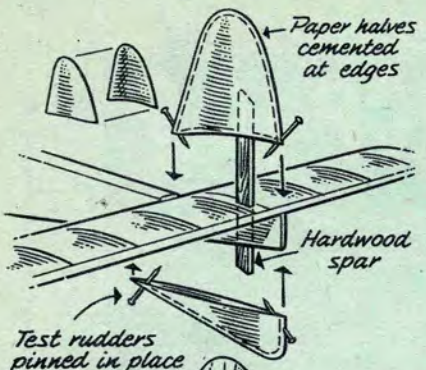
Have you developed something new in construction, control or flying? Send a rough sketch—we'll redraw it and pay $5 for each accepted. Ideas should be original; sorry, no correspondence on submissions.

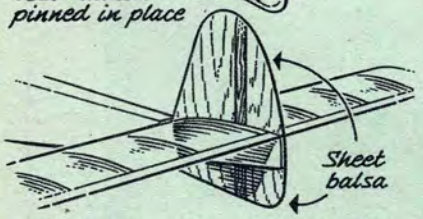


"Solderless" fuel tank by Sfc. Norman Anderson, Monterey, Calif., may be disassembled for cleaning . . . can be any shape.

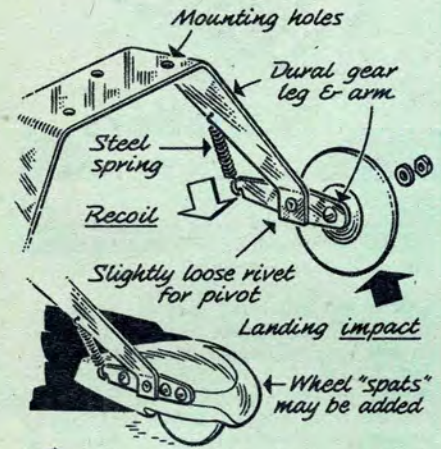


Adjustable dural line guide for speed models allows variation in yaw or "pull" of model to suit wind conditions - By Eric Knox, San Francisco, Calif.

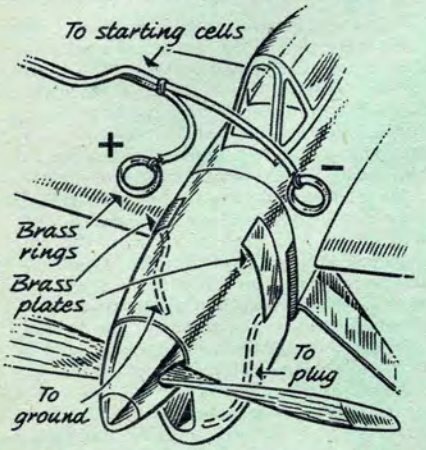




"Slip-on" rudders of stiff 2-ply paper are used to learn by actual tests precise area & configuration. Duplicate area and shape in sheet balsa after testing suggests Pvt. Norm Ingersoll, San Antonio, Texas.



Shock-absorbing feature added to dural gear on team racers & sport models is development of John Schroeter, Sacramento, Calif.



Brass rings held against flush contact plates make quick glo-plug connection by "mechanic" as he holds model for cranking. Used more than a year by Wm. Hollenbach, Jr., San Antonio, Texas.

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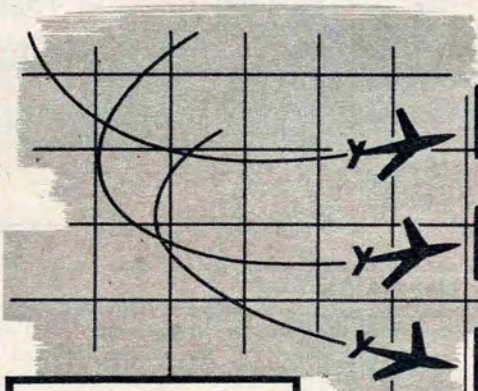
with Embry-Riddle — Univ. of Miami training



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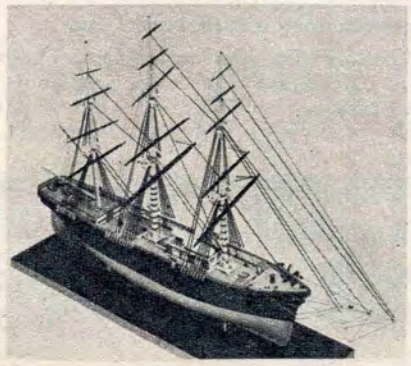
FLYING FISH



BOSTON • 1851

This fine clipper ship came from the East Boston yard of Donald McKay, master ship builder. Her hull lines were recently discovered and secured from the Bergen Sjfartsmuseum, Oslo, Norway, and using the Boston Atlas description of her as launched, Model Shipways has developed this highly authentic model of her on ⅛" per foot scale.

The model is large, with a 27½" hull, and 36" over all. The kit includes a machine carved hardwood hull, castings and brass fittings, wood parts, cordage, plans and instructions. Mahogany hull optional; add $2.00 to kit price.

PLANS. 3 sheets with rigging plan in 2-color, by H. S. Scott and instructions.....$3.00

COMPLETE KIT, as above, including plans and instructions..... **$39.50**

Inspect our kits and fittings at alert hobby and crafts dealers, coast to coast. If no dealer near you order direct.

NOW AVAILABLE, NEW 1955 CATALOG! Describes in complete detail 18 world famous ship model kits and scale fittings. Send 25¢ today for your copy.

MODEL SHIPWAYS
39 West Fort Lee Road, Bogota, N. J.

WHAT'S YOUR PROP I.Q.?

Answer yes or no to these questions.

1. Is the complete blade of a propeller called the air foil?
2. Does the Clark-Y air foil section deliver the highest thrust to power ratio?
3. The extreme tip is called the propeller hub?
4. Does speed flying require a specially designed propeller?
5. Will a more directional propeller take a greater load without slipping?

HEAT PROOF

FUEL PROOF

ANSWER: If your answer is "NO" to No. 3 and "YES" to the rest, you are an ACE.

The latest in design and aerodynamic principles are being applied in the manufacture of TORNADO PROPELLERS.

Whether you fly Speed, R.C., Free Flight, or Control Line — there is a Tornado Propeller made to meet your individual requirements.

Consult the prop chart at your dealer . . . then mount a Tornado Propeller on your engine and get maximum efficiency out of both engine and fuel.

Tornado Propellers

GRISH BROTHERS • ST. JOHN 1, INDIANA

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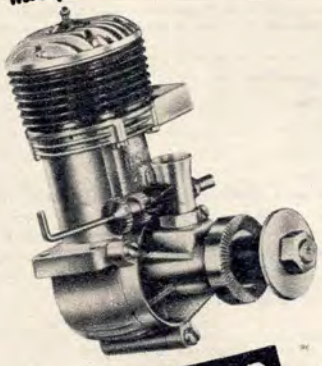


FORSTER ENGINES
MODEL F-29 or F-31
$11.20

WE'RE OFFERING EXTRA-GENEROUS TRADE-IN ALLOWANCES!

To clear the flying fields of worn out, balky old engines — to give thousands of modelers a fresh start with a truly top quality engine, we make this sensational offer:

Mail your old engine to us, no matter what make, size or condition, even though some parts are missing! We will allow you $5.00 for it in trade towards a brand new FORSTER front rotary valve engine! Your old engine and only $6.20, plus 35c for postage and handling, will bring you the latest and best model F-29 or F-31 FORSTER engine, made by the oldest established model engine manufacturer in the U.S.A. and known the world over for outstanding precision, performance and fuel economy.

This is a limited offer, good at the factory only! Mail your old engine today. The new engine of your choice will be on its way to you promptly. Write us for free descriptive literature.

it's trade-in time for a better deal!

YOUR ENGINE IS WORTH MORE ON A NEW "FORSTER"—NOW!

FORSTER BROTHERS 8 E. LANARK AVE., LANARK, ILL.

where quality comes first

(*Continued from page* 61)

A.I.S.C. Scholarships will also be mailed you at the same time.

Richard Rosenthal was too busy getting ready for college to make the trek to this year's National Modelplane Meet in Chicago, but he did enter the '54 Mirror Meet on nearby Long Island. He and his twin brother Ronnie (with whom he always paired at contests, the two alternating at flyer and helper) were going well at the morning session, but in the afternoon session their ship cracked up. . . . Has this ever happened to you?

What about your getting drafted? The rules state that if the holder of a scholarship enters the armed services, the Committee reserves the right to discontinue further payments. When he becomes a civilian again (or enters an inactive military status), it will give consideration to his taking up the scholarship once more.

As to the money awarded all A.I.S.C. Scholarship holders, the thousand dollars will be paid to your account at the college you attend. The rules do not specify the manner in which it is to be spent—it may be used for other than tuition purposes. However, the main idea is to help you get through the whole course, and to this end the Committee consults with the authorities of your college to work out a definite plan of payments from the fund that is best suited to your individual need. A general rule is that not more than $250 may be made in payments to the student during his first year. BUT, if you are taking a cooperative course, wherein usually you are not allowed to start on the part-study, part-work program (and hence do not earn any pay coming to you from the job part) until your sophomore year, you may during

your freshman year receive payments up to $500.

Speaking of economics, it is true that a thousand dollars won't see you through four years of college. Mighty few scholarships indeed are of the all-expense kind. For this reason, it might be worth your while to consider the cooperative plan which is part of your choice in the A.I.S.C. Scholarships, even though the course may take a little longer. (And don't forget that practically all colleges have some kind of student-aid programs, including part-time jobs, loan funds and the like.) Furthermore, the Institute's scholarships offer this incentive: wherever possible, the companies try to furnish you with summer employment during your college career. Thus you get practical experience and salary checks too.

It sounds like a good deal to us. If you are now a high school senior who wants to be a civil engineer, consult your principal on the matter now. If you're still on your way to being a senior—keep this one in mind. Better still, start working toward it.

Round the Track

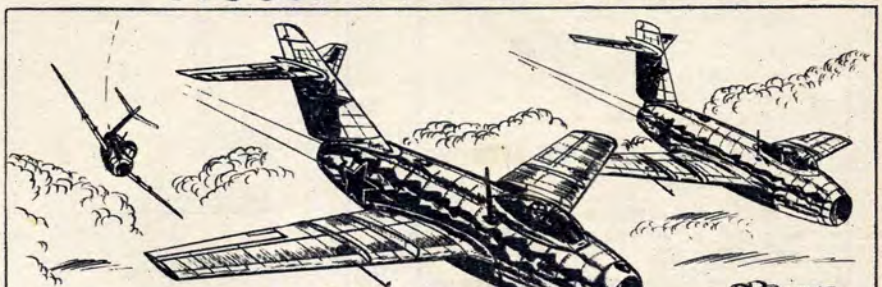
(*Continued from page* 58)

he should use to steer it. We suggest one of the motor-driven gadgets like the Dmeco Multi-Servo or Bonner-Babcock Servo. We would be most interested to learn what sort of a vehicle Ron has under construction.

In the Aug. "Track" we had a brief review of some of the makes of finished race cars that were on the market. Andrew R. Fabian (10 Wilson St., Larks-

(*Continued on page* 69)

RUSSIAN AIRCRAFT!



The Iron Curtain has hidden the enigma of the Soviet Airforce until the publication of the "MILITARY AIRCRAFT OF THE U.S.S.R." by Cain and Voaden, two authorities on the Soviet Aviation effort. Now you can learn the secrets the Iron Curtain could not hold back! See the excellent photos, drawings, three-view diagrams of Soviet Bombers, Trainers, Fighters, Jets, Cargo, Glider and other types of Russian planes. Wonderfully handy data given on each plane shown, supplemented with concise information, just what you've been searching for. In addition to this publication, we will send you ten of our EXCLUSIVE photos, never before offered by us. Ten internationally known favorites . . . Bell X-IB, Avro CF-100, Douglas F3D-2, SAAB J-29, Republic F-84G, Westland Wyvern, N.A. FJ-2, Boulton-Paul P.IIIA, Lockheed F-94C and Vought F7U-1.

In addition, we will also include in this combined offer, our complete listing of our exclusive aircraft photos, the 1953-54 list, which also gives complete information on our stock of old and new aviation books. Send for the complete deal now! "Military Aircraft of the U.S.S.R.," ten original photos listed above, the photo and book-list, all for only $2.00 post paid anywhere in the U.S.A. or Possessions. All other countries, $2.25 pp'd. Rush your check or Money Order today! Sorry, No C.O.D.'s.

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Genuine LEATHER HANDICRAFT KITS
Guaranteed TOP GRAIN COWHIDE

Each kit is *complete with everything needed* for a fine finished product.

A-22 Key Caddy
Each 70c

A-1041 Men's Pre-Tooled Billfold .....Each $1.45

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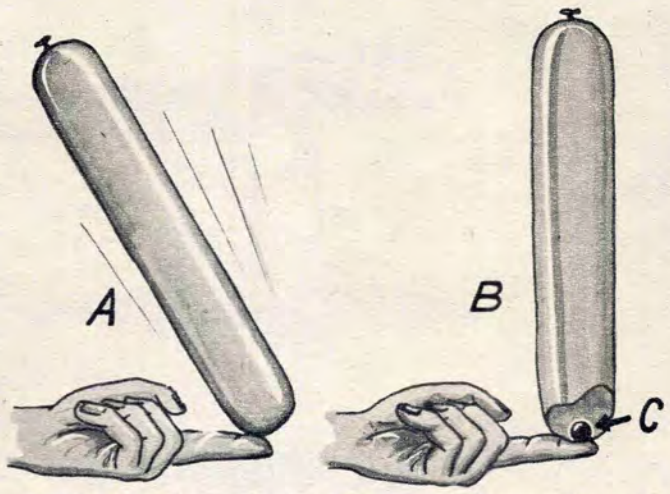
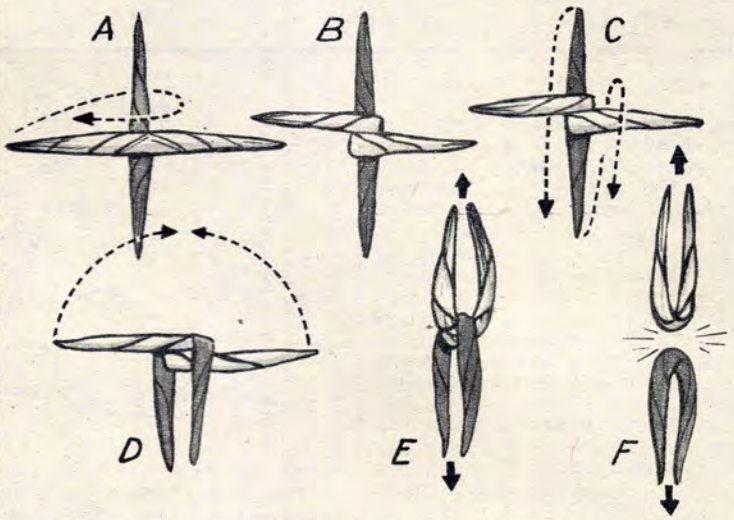


PROBLEM: To balance a long, inflated balloon on the tip of a finger, as shown in sketch "A".

Solution: Before inflating, drop a marble through the neck of the balloon, blow it up and place on the tip of a finger as shown in sketch "B." On a cutaway "C", the marble can be seen resting on the bottom of the balloon, helping to balance it in upright position.

—Larry Perg, Jr., San Jose, Calif.



PROBLEM: To tie two handkerchiefs into a hard knot, and then, with a quick pull, to separate them completely without a sign of the knot showing.

SOLUTION: Place one handkerchief crosswise over the other, as in "A." Fold the lighter one around the darker 'kerchief as shown in "B." Now take the lower end of the dark one and bring up and behind the right-hand end and down around the front of the light one. Next fold the upper dark end down and behind the left ear of the light handkerchief as shown by dotted lines at "C." Lift light ends up together as in "D." Holding the dark ends together with one hand and the light with the other, pull on both handkerchiefs ("E"). They will separate without a trace of knot remaining, as in "F."

—Richard T. Golan, Cleveland, Ohio

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(*Continued from page 67*)

ville, Pa.) points out one we missed—the Thimble Drome "Doodle Bug." This is an .099 powered job that sells complete with tether and bottle of break-in fuel for $19.95. The engine may be had as a separate item for $9.95, and the drive unit (with either 2-1 or 1.75-1 ratio gearing) for $3.95. The rear wheels complete with acorn nuts cost 50¢ each. The car is built to look like a midget racer, weighs 1 lb. 10 oz., and is about 8" long. It is said to be able to do 90 mph. Thanks for the data, Andy; we can't seem to get the makers of such products to send us the dope, but maybe our readers will keep us posted!

A new ready-to-run midget car is being marketed by McCoy Products Co. (Culver City, Calif.); it is copied after the full-size race cars and has the engine—a special McCoy .19 Red Head—placed in the cockpit. Car measures about 10" long, has 2½" rear wheels which do the driving, and 1¾" front wheels. Drive is by bevel gears on rear axle; the front wheels are sprung, to help the little vehicle hold the track better. Fully assembled car with engine retails for $24.95, and is supplied with pan-handle type of bridle. The engine alone costs $13.95, is fitted with ball bearings and bevel gear on short shaft.

Long letter received from John R. Stevens (7437 Gloria, Van Nuys, Calif.) who is a super booster for model race cars. He prefers the little ones—has several in the .19-.29 sizes. John runs his cars mostly on the parking lots, but would love to get them cooking on a real track, wonders if there are any in his vicinity. He also wants to get in touch with other race car enthusiasts in the area, with the idea of forming a race car association in the San Fernando Valley. We suggest that John write some of the racing "wheels" mentioned above, and meanwhile, hope that some of you California race car men will get in touch with this lone wolf who craves a little company.

Aqua-tivities

(*Continued from page 6*)

of these is Mike Succarde of Detroit. We'd like to hear from other users of this potent but tricky power source.

The Southern Calif. M.P.B. & Y.A. is still looking for a running site, since it appears that the Alondra Park situation cannot be settled satisfactorily. The group is considering use of Lake Los Angeles, located near Venice, and plans were to give this lake an official tryout late in August. Our correspondent from this club, Bill Baughman (5738 Deane Ave., Los Angeles 43), invites all persons interested in model boating to attend the regular meetings, which are held the third Tuesday of each month at Parkview Playground, 412 So. Parkview, L.A.

Results of the big Hydro Meet held at Bristol, Pa., have come from Al Abrams Jr. (1031 Pond St., Bristol, Pa.), who also notes that overall results were very good, and all concerned are looking forward to the Second Annual running next year.

The R/C Boat event was terrific, with some really unusual craft entered, such as the aircraft carrier of Nate Rambo, and an ATH paddle wheeler by Howard Camp Jr. of Belmar, N. J.; winner of the event over the tough obstacle course was the team of Brandt Jr. and Levinsky

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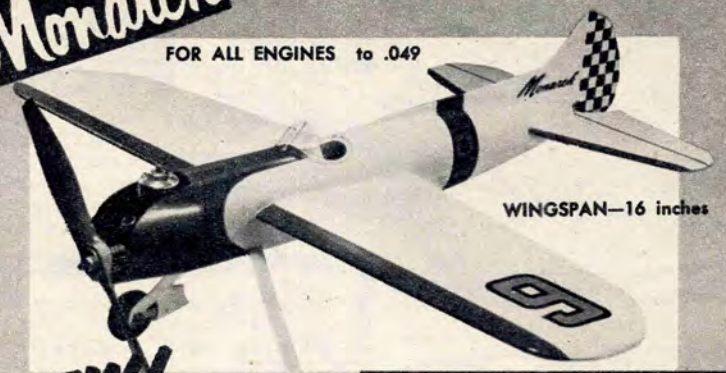

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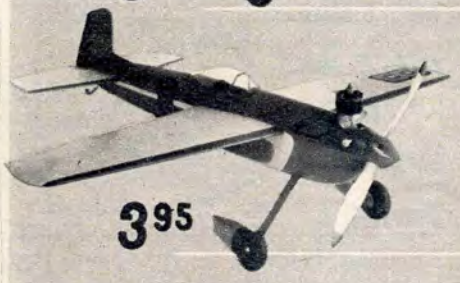

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(Collingsdale, Pa.) with 270 points. The R/C ROW event fizzled, since there were no entries. We had the winners of the Speed boat events in the last issue; this event was conducted by members of the I.M.P.B.A. Non-tethered speed (Half-A) was won by Ed Bordas with 8 sec. while the only entrant to make an official run in the .099 Class—Harry Everham—made the same time. This Around-the-Pole event for free running boats proved a real toughie, since the operators found that the wind tightened up the circle so that they missed the final pole. The Across-the-Lake free-for-all was one of the most exciting events; it sounded like the start of a model plane Team race, with boats shooting off in every direction. Winner of this one was Decker of Jersey City, N.J.

ROW Stunt brought out all sorts of queer floats, and the flyers found the water just about as hard as the land; Richard Karp took this with 183 points. Award for Highest Speed in the Most Popular event was taken by Ed Bordas in Half-A Non-tethered Speed, while the Testor's Finish Plaque went to Bob Walters and his beautiful ROW Stunt plane.

General News. As we rather suspected, some of the Half-A boat boys have challenged the comment by authors Witt and Eschenburg in our September issue, to the effect that they have never heard of any authenticated speeds in excess of 16 mph for these tiny jobs. First challenger to be heard from is Wm. Peck Jr. (2409½ Oleander Dr., Wilmington, N. C.); Bill notes that he can see no reason why model boat speeds should

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not be proportional to those attained by model speed planes, where the D jobs have hit over 150, and the Half A's over 80 mph, or about half as fast. He says he hasn't heard of anyone reaching 40 mph with a Half-A boat yet, but does know of two that have exceeded 30 and four more that have bettered 25 mph—all runs having been checked by several different timers with carefully-calibrated stop watches.

One of his own boats is in the 30-plus class, as is one of Jerry Dunn's—the latter having made 32.4. Seems all the real hot boats Bill has seen are powered by Thermal Hoppers, and careful work was done on props and other fittings, to allow the greatest efficiency. Metal universals are a must, as Neoprene tubing has been found to slip too much, and ⅛" welding rod (carefully checked for straightness in a lathe) is used for prop shafts. Stuffing boxes are made from two short lengths of tubing that fit the shaft, these bearing tubes being pressed into the ends of a piece of larger tube. Fittings are attached so that lubricant can be forced into the box, and before use, the shaft is run in with Bon Ami and oil.

Type and size of props are most important; Bill and his friends usually make their own. Balance is also a big factor, and is tied in with angle of the prop shaft and size of prop. Bill makes his props with a 5-40 thread, to fit an ⅛" shaft, and says he would be happy to let writers Eschenburg and Witt try one, if it will fit their shafts. So there we have our first challenger on the Half-A speed question—who's next?

We have recently heard of a new hazard for model boatmen; Jackson Ingham Jr. (3765 10th St., Riverside, Calif.) writes that he was running his little R/C outboard boat near the shore of a local

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$25 cash award for each trick picture used here. Submit as many different entries as you wish; none should be less than 4 by 5 inches, and preferably 8 by 10 in. glossy prints. We will return all photos submitted but cannot accept responsibility in case of loss or damage. Pictures may be of one-dimensional subjects (people, inanimate objects, cartoon-caricatures, etc.), or can be table-top full-dimensional scenes. Amateur and professional photographers stand an equal chance. Keep the subjects humorous and/or unusual.

lake when he noticed a fisherman making casts at it. Suddenly (and probably by accident) the hook caught on the boat, and Jack hollered at the man to reel in very slowly, but the "sportsman" gave a big heave, and pulled the whole boat under water. Fortunately, some air was apparently trapped in the bow and the boat stayed awash till it could be rescued. It ran again same day.

Jack now has his Sterling 40" ship in use; it has a receiver combining a Wag front end with an E.D. reed unit, which controls a Bonner Servo for the rudder, with the other channel for motor control, etc. Engine is Cameron 2-speed. He is now dreaming of a steam-driven tug with "lots of business inside," fiberglass hull, lights, siren, etc.

A realistic 3-point hydro patterned after the big ones has been built by Robert Pavlik (217 Guard Pl., Pleasantville, N. J.); it is 15" long and planked with 1/16" balsa. Power is supplied by an .098 McCoy, and Bob says the boat is very fast. Estimates of speed are 35 mph in rough open water; because of considerable beam, the boat is very stable.

As a means of protecting the wood of boats fitted with clamp-on outboard motors, Dick Dunne (1714 Wallen Ave., Chicago 26, Ill.) folds a piece of thin copper or brass sheet over the transom,

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and holds it with small bolts. Dick then puts bits of rubber over the inner ends of the engine clamp screws, so they will not slip off the metal-covered transom.

Dave Dickerson (402 W. Walworth St., Elkhorn, Wis.), owner of an Allyn Sea Fury outboard, has found the use of a safety chain very important. (Sounds as though his boat and motor have parted company!) He drilled a small hole in both mount brackets of the engine, and passed a small chain through them, with a washer soldered at each end. The chain is looped around a metal hook fastened securely to the hull; then if vibration *should* loosen the engine during a fast run, it won't sink like a stone, but remains dangling at the end of the chain till Dave can retrieve it.

Some notes on the boating activities of the Bristol Aeromodeleers (Bristol, Pa.) have come from Al Abrams, Jr. Al, himself, teamed with his father, has a Sterling 63" yacht fitted with C-S 27¼ equipment, and a Demco 2PN servo for steering. Boat is driven by two small Pittman motors, with juice from an NT-6 storage battery; this gives about an hour of running time. The club held two "small boat" contests; events were Across-the-Lake free running, and tethered Class H (up to .099 engines); small prizes are given for Air-boat, Inboard and Outboard winners. These events are mainly to gain experience in running boat races and to set up rules for running such events next year. Races are held every Sunday at Silver Lake in Bristol. Practically everyone in the club is interested in both planes and boats, and the organization is affiliated with both the AMA and the IMBA.

The fascinating low drain electric motor discovered by ATH and described in some detail on p. 59, September '54 issue, may now be had for $3.50 from Polk's Model Craft Hobbies (314 5th Ave., N. Y. 1, N. Y.). Can be had with 9-tooth pinion on shaft, which will mesh nicely with small gears carried by most hobby shops. Operates on 3-6 V., and draws only *8 ma.* running without load! Motor is called "Aristocraft Distler." Polk's also have kit for 34" long Wavemaster boat; this is an all-hardwood super-prefab job with cabins fore and aft. Area between makes ideal spot for engine. Beam is 11" and kit sells for $18.95. This concern can supply Cameron Marine Drive unit for $2.50; includes shaft, housing, flex coupling, etc., to go with Cameron (or other) .19 engines.

Fly-Hi

(*Continued from page* 44)

turn if you are right handed. Grip the *Fly-Hi* as shown in the picture and launch in a steep right banking attitude, using a side throw. The glider should shoot up in a slight right arc before straightening out and rolling into a left gliding turn at the pull-out. This adjustment procedure is reversed if you are left handed.

If your *Fly-Hi* does not recover smoothly from the launch-to-glide, try throwing at different angles to the wind and also experiment with the bank you apply in your launch. If the glide path should develop into a spiral-dive reduce the left rudder and inspect the wings for warps. It may be necessary to warp the trailing edge up very slightly on the outside of the turn (warp right wing T.E. up if ship spirals in while gliding in left circles). Also experiment with more or less nose ballast while working for the desired performance.

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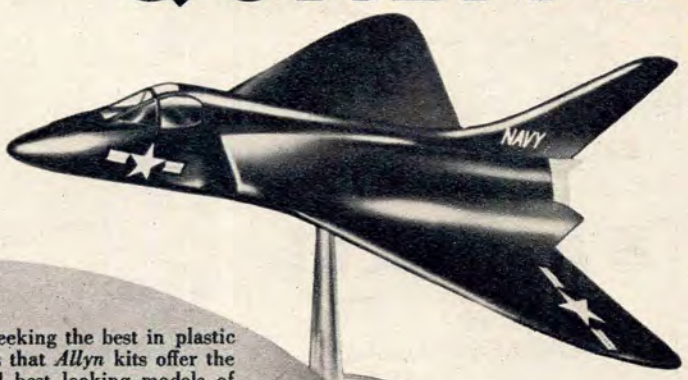

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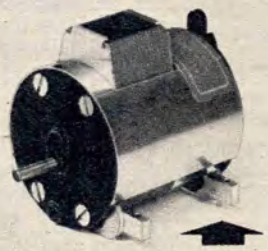

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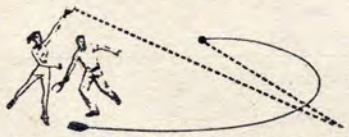

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"My Favorite Model"

Brown Jr. Powered Sky Chief

Says Don Kimsey

Seeing Jim Cahill's favorite model in August ATHFYM reminded Don Kimsey of the plane that stands out most in his 20 years of model building. His favorite model was designed by him in 1936. It had a span of more than 7 ft. and weight of around 6 lbs. It won him first place in the Southeastern Contest held in Macon, Ga.

Reminiscing of the old days, Kimsey says, "On one occasion at the Valdosta, Ga. airport during a flying show put on by our club and sponsored by Jaycees, the model caught a thermal and soared away. We chased in a car with a stop watch in hand. After following for more than an hour, it headed back for the airport, but changed its mind and went off cross-country again. Meanwhile, a friend took off after it in an airplane. We kept the model in sight on the ground for two hours and 36 minutes. The pilot came back and reported that he had spotted it 20 miles away. We went to the place but could not find it." Later a farmer brought it back undamaged. The Texas Oil Co. representative at Valdosta, who witnessed the flight, suggested that Don advertise the then-new Texaco Sky Chief gas with the model, hence the Texaco Star on the plane's photo and the name "Sky Chief."

When Don Kimsey joined the Navy he gave the "Sky Chief" to two model builders. After the war he built another, this time a contest free-flight, Class "C," taking two firsts at local meets, and later converting it to R/C. Don Kimsey, who professionally is City Editor of Albany *Herald*, Albany, Ga., has this to say about his favorite model: "To me it came as near being the perfect model airplane as I have ever seen." He must know, after 20 years of model building!

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BEST YET

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■ Yes, friends, the response has been nothing less than overwhelming for the new edition of AIR PROGRESS. We've heard from readers everywhere; rocket engineers want to know where they can get copies of guided missile photos we ran; WW2 fans applaud the special photo section on the Hitler air arm; response to the "home-built" feature was quick and unanimous—why can't we be like the Frenchmen? everyone wants to know.

Certainly one of the biggest bargains in aeronautical publishing, the annual AIR PROGRESS sells for only 50¢ at U. S. newsstands, for 60¢ in Canada and for $1 elsewhere. There are well over 500 illustrations in this one-of-a-kind compendium: photographs; 2-, 3- and 4-view scale drawings; cutaway drawings by Das and others; diagrams and sketches. Page for page it's the more-for-your-money annual!

May we suggest that you obtain your personal copy of the 1954/-1955 issue of AIR PROGRESS right now? They'll soon be scarce. Try your nearby newsstand or order direct from us, using the coupon order-form below. And here's a timely hint—copies make wonderful gifts! Order several! Now!

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(ATH-1254)

Under Control

(*Continued from page* 16)

one that you may want to use, and requires only light rubber. Linked to the crank is another shaft with a small two-lobe cam on the end. This controls an "armature" for a second escapement wheel, and you can pile the rubber on this shaft. The multiplier would be useful also for boats and even in cars, since you can put all the power you want on it.

R/C News. A big two-day model meet at Spokane, Wash., featured an R/C event which was won by Miles Wilson of that city, flying an LW Cruiser fitted with Mini-Mac receiver. In addition, he used our Mac II transmitter. Miles was surprised also to win the Testor's Plaque for best finish, and further, he won a drawing for a C-S escapement—how lucky can you get? Hubert Wendt took second, with Joe Fox in third. Joe won the R/C event at the Jim Walker meet last July. Miles notes that the Washington Air National Guard does much to make these meets a success, furnishing MP's, Pa systems, refreshment stands, and other equipment and personnel.

The DC/RC boys (Washington, D. C. area) have been hot after the FAI Endurance record, since Walt Good first took it back in 1952, only to lose it soon afterward. They had another go at it on Aug. 28, racking up an American record (but unfortunately not an international one) of 1 hour, 1 min., 18 sec. Jim Reed set this time with his "Eliminator"—a

(*Continued on page* 77)

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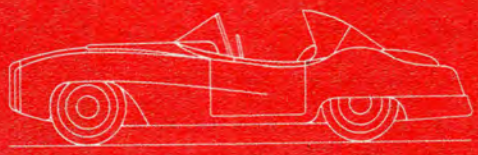
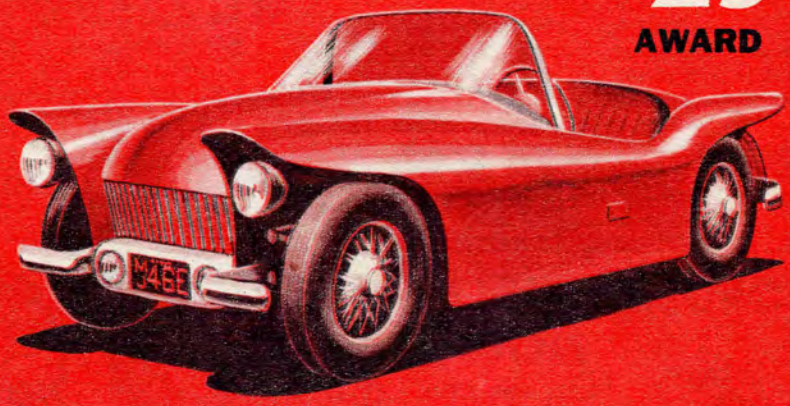
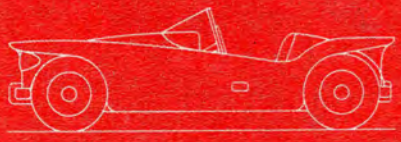


Designer of this Monte Carlo Coupe de Ville, Rick Joachim of Decatur, Ill., does not believe in spending nights in motels on long trips, so his car is equipped with reclining foam rubber seats, reading lamp, record player and a refrigerator. Wheel base is 102". 160 hp engine.

SECOND
$25
AWARD



Sports-competition roadster by A/1c John E. Watts, stationed abroad. A nifty job, though would not qualify under International sportscar rules for competitive events because of lack of doors. Entrance into cockpit by way of kickstep in side of body. Interesting is use of screens acting as gravel guards over rear tires.



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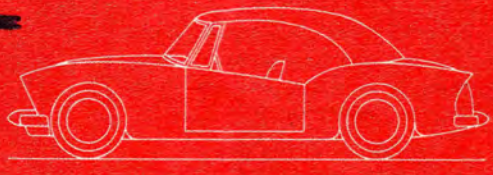
Four-seater sportscar by Bill Franklin, Houston, Tex., answers prayers of sportscar fan with family. This car, with a 108" wheel base, has plenty of room for six-footers in front, and a spacious rear capable of carrying full-grown adults, unlike some European four-seaters. Top folds conveniently out of sight.



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(*Continued from page 75*)

modified scale L-19 for which plans will be in ATH. Equipment was prepared by various DC/RC club members; transmitter was by Hargett, proportional pulse box by Herb Honecker, receiver was a Good 3-tube AF tone style built-in special form by Murray Collier. Silvercels were used for filament and actuator power in the plane. Engine was a Fox .25, and about 15 Tornado 12/3 props were used up in take-off attempts along a concrete highway, before the heavily laden ship finally made it.

Ship carried 1½ pints of fuel, plenty to beat the Russian FAI time, but over half of it leaked out, due to a crack in the fuel tank; motor run was about 40 min. The plane went up well out of sight of Reed, who flew by "GCA"—a couple of club members flat on their backs with 7x50 binoculars! Carl Wheeley was the FAI-AMA official present. Recent election brought Herb Honecker up to presidency of DC/RC, with Dick Higgins the VP; Tom Bedford, Treas., and Bill Saks (6811 Fairfax Rd., Bethesda 14, Md.) the Sec.

The FAI Endurance record, incidentally, was held by the Russians at last reports, but Geoffrey Pike of Nottingham, England, made a time of 1 hour, 40 min., 35 sec., last July, which will probably be certified as tops. Geoff had made two previous flights on the same day, of 1 hour, 10 min., and 30 min. respectively. How would *you* like to have your plane in the air for almost 3½ hours on a single day!

While contest results are still coming in, this is "R/C Meeting" and "R/C

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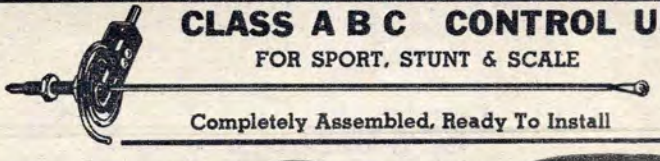

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Picnic" time. Two big events of this type have just been held—as this is written—on the East Coast, one run by the SEV/RCG at Langley Field, Va., and another conducted by the Pittsburgh Flying Circuits, at Selinsgrove, Pa. The Virginia club's shindig was an open affair, any who could come invited. There were over 30 flyers present, some of whom had to drive 15 hours to get there. One feature of the Roundup was the fact that several new systems of multi-controls were in use, all of which performed in fine shape. Members of the Group had provided field phones for use when range-checking, cars for retrieving and plane-chasing, judges for anyone who wanted to try the AMA contest patterns, soldering iron and model supplies on the field, etc. The only "competition" was that every flight was scored on the approach to the landing strip, and for nearness to the spot. Bob Strickland took top honors in the landing scores.

Saturday afternoon a huge picnic was held, and that evening there were films, talks by club members on control systems, R/C aerodynamics, use of Fiberglas, etc., plus the inevitable bull session later. Also on Saturday, the Roundup was on a local TV station for 20 minutes. All in all a most successful weekend, and all hands are starting planning for next year's Roundup right now.

The SEV/RCG, incidentally, has some very interesting ideas on field regulations. Other clubs might want to get in touch with them on this, and on ideas for running these Roundups; write to John Worth (Box 9, Hampton, Va.).

The Selinsgrove R/C Meeting has now been held for four years running, but this year was the best of all. While weather in the past has ranged from so-so to

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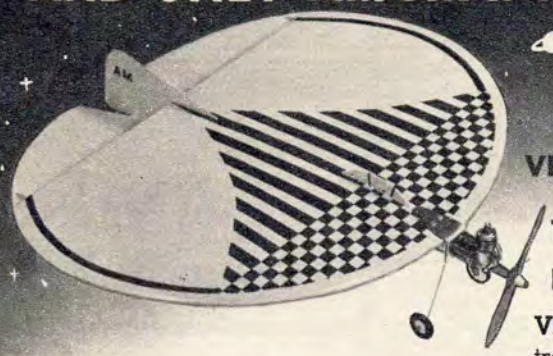

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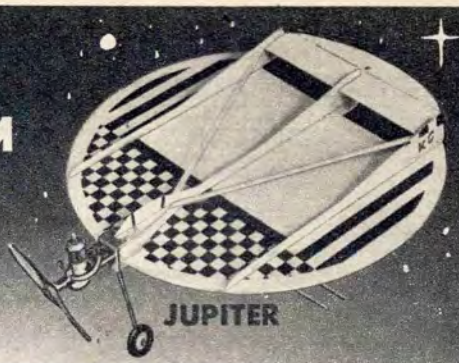

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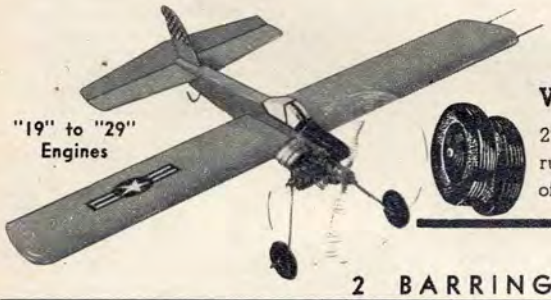

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downright horrible, this time there were three perfect days! Held over the Labor Day weekend, the Meeting—which is an invitational affair—brought out over forty flyers, several of whom had two or even three planes ready to go. As usual, new systems and planes were shown, one of the highlights of these being the dual proportional system of Walt Good; this set-up gives simultaneous control of rudder and elevator and was fitted to Walt's battle-scarred old Rudderbug. So many flyers wanted to try the ship out that when it came time to pack up, Walt found he had used up three pints of fuel, which means roughly about three hours in the air!

Other meeting highlights were an active lady flyer (Sara Schenck, who flew a Beam of her own construction), some spectacular rudder-only stunting by—among others—Vince Bonnema and by a modeler from Pitman, N. J., whose name we didn't get, the very successful results of Don Clark and John Hamblen with 220 mc. equipment (it will be in ATH soon), and many more. Movies of R/C flying and color slides of the Nationals R/C event were shown Saturday night.

And all the time—day and night—there was the continuous interchange of ideas, comparison of systems and planes and equipment, which is what makes these affairs so outstanding.

Ernie Gilbert (921 Bolan St., Marietta, Ga.) writes that flying around the Atlanta area is done on a 1600-acre dairy farm; the owner, "Boll Weevil" Henderson, is not a modeler but cooperates to fullest with the boys. He even has a lake for boatmen to use.

As far as Charlie Faraldo (634 Eldorado St., Daytona Beach, Fla.) has been able to find out, there are 17 R/C planes in the area, and four boats. Chief flying

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time is Sunday afternoon, and visitors are welcomed.

Technical Items. A note from Dick Schumaker points out that the modification on the Babcock receiver, suggested herein recently by Paul Johnson, will reduce the sensitivity and therefore probably the reliability of the equipment. Also, Dick emphasizes that any changes to the Babcock receiver—and this holds equally true for *any* commercial equipment you may change—will cancel the guarantee on the equipment. Schuey also includes a note on operation of the Babcock BCR-4 3-channel receiver; it has been found that the production filters used in this unit are showing more output than was expected, and it is now recommended that 22½V. of C bias (Eveready 505E or equiv.) be used, when the plate voltage is 60. For 67½ V. plate supply, the C battery should be 30 V. (Burgess U20E or equiv.). These values will eliminate any microphonic tendencies, without reducing the sensitivity of the receiver.

Delton Hooser (Box 420, Lubbock, Texas) points out an error in the connections to the Hi-Lo switch, on the Good AF Tone transmitter diagram, page 79 of the June 1954 issue. As shown—with the switch turned to Hi—the transmitter will operate normally, but on Lo only the RF tubes will work, there being then no B plus connection to the 3A5 audio tube. Remedy is simply to connect the lower part of the key jack to the *arm* of the switch, rather than to the Hi point.

A useful comment on antenna loading comes from John Worth (Box 9, Hampton, Va.). One of his fellow R/Cers was having trouble getting enough output from a 3A4 transmitter, and a field strength meter showed that it was put-

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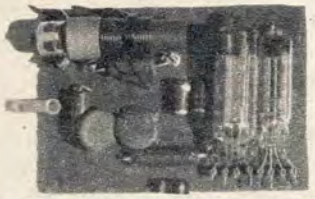

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ting out only a fraction of the power that could be had from a Mac II sitting near it; the difference looked far too great to John, who suggested placing the two transmitters on a steel rail imbedded in the ground close by. Sure enough, output from the 3A4 job went up to about three times what it was; the Mac II output was only a fraction higher, though. Conclusion was that the antenna coupling system of the latter enabled it to put out at full power, even on rather poor ground. The 3A4 job had a fixed antenna coupling system that wouldn't take full power, unless it was on a very favorable ground.

Along this line, one of the flyers we met at the Nats—who hails from a very dry Western state—told us that he always took a bucket of water when he went flying; he pours it on the ground, then sets the transmitter on the wet spot. Result—perfect loading!

Several readers have questioned the item we had on p. 79 of the August 1954 issue, relative to changes in the Good AF Tone transmitter. The item was quite correct, but we unfortunately mentioned a "110K resistor," whereas the original circuit diagram showed the value as 100K. This resistor feeds the screen grid of the oscillator; when you make the changes suggested, only the lower end of this resistor should go to terminal 6 of the 3A5 tube; the tap on L1 goes to 135 V. (through 100 ohm resistor, if you want to meter at this point) as before.

Commercial Items. Kit for Henry Struck's "Sea Cat," realistic 68" span semi-scale flying boat that has been flown a great deal with R/C, is now on market, should answer need for a proven flying boat that will carry radio. Produced by Berkeley Models Inc. (West Hempstead, N. Y.), who also have coming up a 35" span scale Cessna 180; Berkeley doesn't mention this one for

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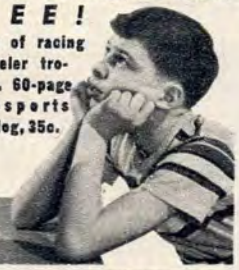

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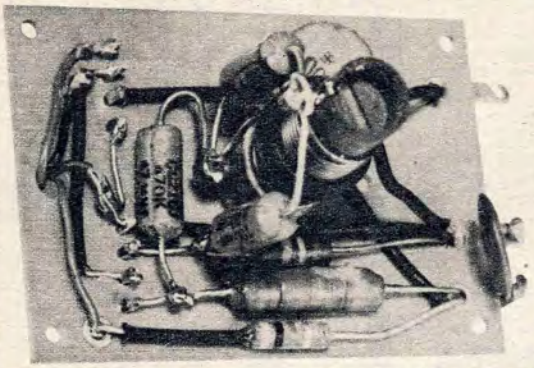

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radio, but it would make a real cutie.

Another scale job, designed especially for R/C by Nate Rambo, is the "Spirit of St. Louis" which spans 41" and will carry .074-.09 engines. Kit is sold by Springfield Models (964 Springhaven Rd., Springfield, Pa.), which will soon have a second Rambo R/C scale model, the Cessna "Bird Dog." "Spirit" is well prefabbed, with balsa sheet fuselage for strength and fast building.

A 27½ mc. transmitter, the Model 250, is sold in both kit and finished form by MC Mfg. Sales Co. (6720 Monroe, Kansas City, Mo.), for $15.95 and $19.95 respectively. Prices are less batteries, but include tube and crystal, 54" antenna, punched metal parts (in kit) and green hammertone cabinet measuring 3 x 5½ x 8". Their Model 100 single hard tube receiver will sell for $14.95 with tube and relay, ready to use. Both items will be sold through hobby shops.

Tiny switch capable of carrying several amps but requiring extremely light pressure and small movement to actuate, is sold by Acro Mfg. Co., lists at $1.20. It is Model CS, can be had in normally-open or normally closed styles. All are SPST, and action is rotary. Will operate at very high speed, and is ideal for use in proportional pulsers. Concern makes large line of other switches, both snap and non-snap action types, issues comprehensive catalog. These switches may be had from Electronics Center, Inc, (118 Duane St., New York 7, N. Y.).

Cameron Compound escapement may be had from Polk's Model Craft Hobbies (314 5th Ave., N. Y. 1, N. Y.) for $8.95. Affords two rudder positions, and third position closes electrical contacts; coil resistance is 15 ohms, and weight is 1¼ oz. Works on 3-4½ V. (latter recommended).

Electronic Specialty Supply Co. (58 Walker St., N. Y. 13) offers several subminiature audio tone receivers, which give the known advantages of AF tone operation, plus lower battery drain and smaller size. Model BECER III is intended for use with present tone commercial transmitters, sells for $19.95 in kit form. ESSCO has a modulation kit that can be used with Mac II and other transmitters, to operate AF tone receivers, kit selling for $5.95, or finished for $8.95. Kits are available to convert various commercial single hard tube receivers to two-tube operation, fea-

(*Continued on page* 85)

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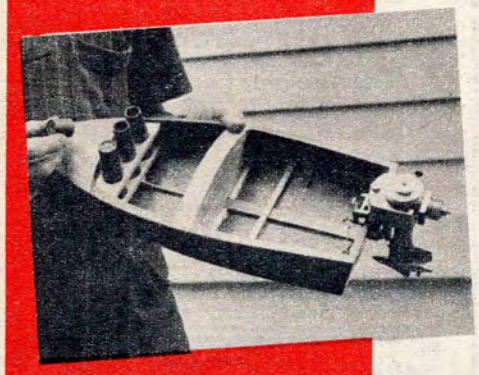

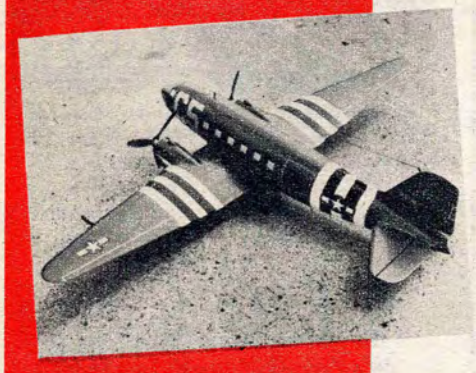

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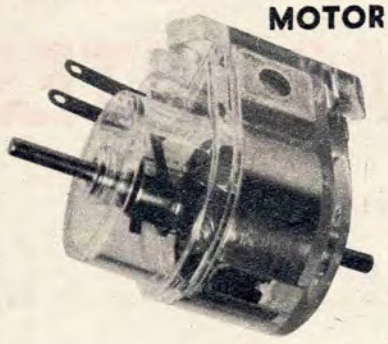

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What's Your Hobby?

JOHN SHROTER
Collector of Military Miniatures

Collecting military miniatures is the favorite hobby of John Shroter, who lives in Los Angeles, Calif.

Several years ago while on summer vacation he became fascinated with the tiny, British-made figures which he saw in a toy shop. This got him started on his collecting spree, now extended to include vehicles as well.

According to John, most military miniatures are sold in sets of seven or eight figures, ranging in price from two to three dollars each. However, it is possible to purchase unpainted, individual castings for fifty cents to one dollar and twenty-five cents. All John's models were bought unadorned, to be painted and decorated by him. The quality of that work is so good that he has standing offers of $1.30 for figures which cost him sixty-five cents.

He recommends this hobby to others as it is not an overcrowded field. Self-satisfying realism that can be achieved with it is shown in bottom photo: British armored column on the march.

Now . . . What's your hobby? Is it of special interest to mechanically minded young fellows? If so, tell us about it Send photographs, details on how you got started, to "What's Your Hobby?" Air Trails HOBBIES, 304 E. 45th St., New York 17, N. Y. We pay you $25 for each contribution published (typewrite your comments, include glossy photographs).

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GULL MODEL AIRPLANE COMPANY
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(*Continued from page 82*)

ture the MPC-2 "tube"; latter is two MPC-1 or 1AG4 tubes taped together and soldered to a 7-pin plug, so they can be slipped into converted receiver easily. Coming soon are sub-min superhet receivers, and a 4-channel reed outfit; the reed receiver and transmitter will sell for $89.50 in kit form, or $134.50 ready to use.

New instruction booklet being packed with Multi-Servos by deBolt Model Engineering Co. (Williamsville, N. Y.) has added info on these useful units, data on modifying the Babcock receivers to use them, and description of the "Compensator"—simple device that assures equal right and left turns regardless of where the Multi-Servo neutralizes.

Builders of the Mac II and transmitters using similar tube lineup have sometimes found it difficult to locate the 1 ohm resistor needed in the filament circuit. Control Research (Box 9, Hampton Va.) points out that their 10 uh RF choke is a fine substitute; note that just any 10 uh choke will not do, though, as they vary widely in resistances. CR has DPST slide switches with wiping type contacts which have been found very reliable, for 30¢ each. These items and many others will be found in a catalog supplement, to be mailed shortly.

A small and very sensitive relay will be distributed in the model field by Price Electric Corp. (Frederick, Md.). Can be had in resistances up to 8500 ohms; latter size weighs 1.2 oz. measures a bit less than an inch cube, will operate nicely at well below 1 ma., with close differential. All adjustments are by bending. Relay is of rugged construction, has palladium contacts, and 8500 ohm job will sell for around $4.00, lower resistances will cost less, weigh a bit less and be a little smaller.

Weighing just over an ounce, Potter & Brufield type PW relay has balanced armature, comes sealed in can same size as miniature tubes, with 7-pin base. Standard setting for 5000 ohm unit is 2.8 ma. operate, and cost at mail order radio houses is $9.55. Can is easy to open, if you want to reduce weight and size, or adjust to other values. Higher and lower resistance values are available.

How to Apply AF Plane Markings

(*Continued from page 41*)

would have some other functional markings for added realism. The mark of the *danger line*, for instance, a red stripe 2 inches wide painted around the fuselage or nacelle housing a jet-engine. The red line will outline the plane of rotation of the turbine wheel.

A panel of dull black or olive drab paint, known as the *anti-glare panel*, is applied to the fuselage in front of the pilot or on a nacelle or wing-tip tank to eliminate the glare from the shiny aluminum surface.

Flaps will be outlined with a 2-inch red stripe and the words *"No Step"* stenciled at regular intervals. This is done so that ground crewmen will avoid stepping on this fragile part of the aircraft.

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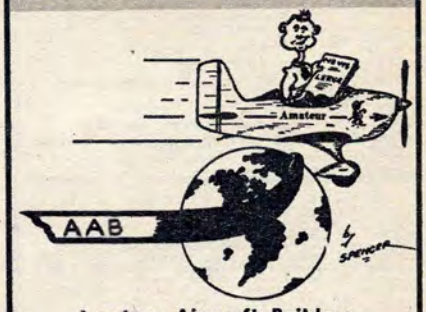

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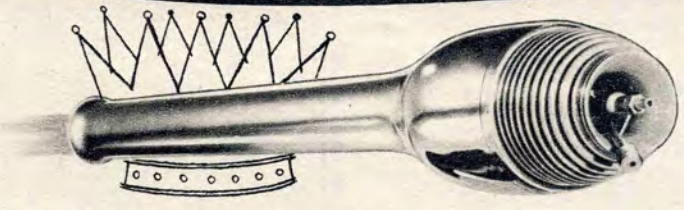

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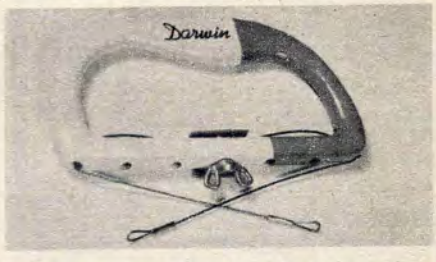

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STANDARD ESCAPEMENT
Self-neutralizing, precision-built. Weight ½ ounce. Low battery drain. Guaranteed.

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We have just gotten a limited shipment of formerly restricted Air Force aircraft recognition slides used to train U. S. airmen. Fighters, bombers, observation ships and other craft are shown from every angle . . . at a distance as well as close in. Many views of enemy planes were taken by the gun-cameras of our own fighters in aerial dogfights during World War II. You can learn how to recognize various planes by studying these slides and help in Civil Defense or future service in the Armed Forces. Boxes of Jap, German, British and American planes. On all orders of **100 slides or more** we will send you . . . **FREE** . . . of charge a handsome pocket-size Mini-Viewer of mahogany plastic, with magnifying lens, light diffusion glass and quick change slide arrangement.

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SEND order and money DIRECT to:
C & H SURPLUS SPECIALTIES CO., 428 W. Juneau Ave., Milwaukee 3, Wis.

Hobby-Model World

(*Continued from page* 10)

begins a communique from Victor Stanzel, mastermind of Mono-Line plane flying, "in knowing that A/2C Dale Kirm of Kelly Air Force Base, San Antonio, set two National speed records at the Southwest Model Airplane Championships in Dallas. Dale flew a Mono-Line jet-powered job at 154.98 mph and his Mono-Line 'A' job did 134.68 mph for the new marks (still subject to A.M.A. confirmation, of course). The Jim Clem-Sam Beasley Mono-Line speed team took first in A/2 and Class 'B' at the big meet. Other Mono-Line ships were flown by Leo Holliday, Leland Morton, Jimmy Sommersett, D. Perkins and others."

Credit Due. Jim Walker, proprietor of the big Northwest Championship Model Airplane Meet, says that a real expression of gratitude is due to Maj. Gen. Robert S. Sink, Base Commander, Ft. Lewis, and also to Col. Earl P. Schouten, Special Services Officer. And as we understand it, Earl Witt "organized" 100%.

More on Two-Speed. Last month Dick Everett signed off his Western Roundup comment with mention of a third-line mechanical-butterfly exhaust restrictor two-speed engine control. This third line is hooked over the wingtip to prevent accidental slowing of engines during take-off and is not pulled loose until the high speed run is completed.

Jim Walker, incidentally, is credited with originating this.

Dick has more dope for us now concerning this very successful 2-speed system. The exact application is made in two ways, each of which seems to have its advantages, but since one method is much simpler, Dick details that for us.

A small block of aluminum is fitted inside the front side of the engine exhaust and bolted rigidly in place. This is to act as a pivot block for the scissor type vane which is pulled down by the third line for slow speed. This pivot block is drilled and tapped for a small screw and the entire exhaust filed off straight in all directions on the outboard extremity. A small vane of material thick enough not to warp from the engine heat is cut and filed to pivot about this tapered hole. It is very important that this vane moves flush with the exhaust if you are to control the engine properly. A small light spring holds this vane open. The third line is connected so that a slight pull will close the exhaust opening until the desired speed is obtained. The vane must move freely so the engine can be regulated quickly to full speed if another ship gets into trouble.

The alternate and more difficult method of speed control is to use a #5 or #6 taper pin that will close up the exhaust. A flat is filed on the taper pin for the length of the exhaust, then this pin is pivoted to full open to full close for engine control. But a taper pin reamer is required for this job and the unit is much more difficult to install.

Reflecting back to Sgt. Plimmer's combat flying comments, we find that on the West Coast the combat trend is to faster, lighter, easier to build and more maneuverable planes. Just where this power to weight and size ratio will end is hard to predict. Most serious contest goers are swinging to Fox and K&B .35's, some even to Fox .59's. Those who use the .35's certainly have it over the .29's, re-

(*Continued on page* 90)

"SUPERSONIC FUELS"

the champion fuels of the 1953 Nationals—won more first places than any other brands. Accept no substitutes. "100"—$.80; Ultra Glo—$.90; "1000"—$1.00 per pint.

RADIAL MOUNT

FOR .19 AND .23 ENGINES

Rear view of .19 shows mount ring installed. The three mounting holes are the same spacing as mounting bolts on .29 and .32 engines.
Price $1.00
Also available for the .15 at $.75.

WHEELS

The most streamlined wheels available today — low drag, light weight. Solid aluminum hubs can be drilled out to fit larger axle if necessary. Available in four sizes.

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Air Trails FULL SIZE PLANS

GROUP 1254 **50¢**

ENCLOSE COIN OR MONEY ORDER

DOUGLAS C-47 (DC-3) twin-engine transport as a fine, flying scale control line model. A masterpiece by Walter A. Musciano. Span is 47"; overall length, 31½". Takes two engines from .14 to .23. Scaled ½ inch to the ft.

RACING RAFT by Bill Baughman, noted model boat designer. Attractive sport-racing boat for glow plug outboat engines. Overall length is 16 inches, beam is 6 inches. Can also be operated by electric power battery operated outboard motors.

FLY-HI, contest winning outdoor hand launched endurance glider by Vern Clements. Spans 15 inches, length is 18½ inches. Scale-like appearance make it the most attractive h.l. glider in the air.

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ENCLOSE COIN OR MONEY ORDER

DOUGLAS AD2 SKYRAIDER by S. Calhoun Smith. A magnificent flying scale control line model. Span is 44 inches, length is 32 inches. Uses .60 engine for competition. Scaled ⅞ inch to the foot. With complete marking details and equipment.

"X-PENDABLE" combat stunt model by Jim Saftig. Rugged, easily-built job for engines from .19 to .32 cu. in. disp. Spans 38 inches, has constant 9¾ inch chord.

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To aid your folks who are wondering what you'd like for Christmas, our "Hobby Hinter" will save them a lot of time and trouble. Cut out the note below, fill it in and clip it to the front page of this issue of ATH/FYM.

To:

At the suggestion of my friend Mr. S. Claus we both thought you might be interested in knowing that certain hobby items would indeed make it a very merry Christmas and a hobby New Year for the undersigned.

Please see pages _____

Signed _____

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Merry Christmas

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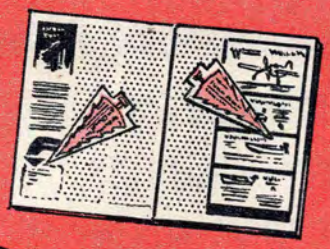

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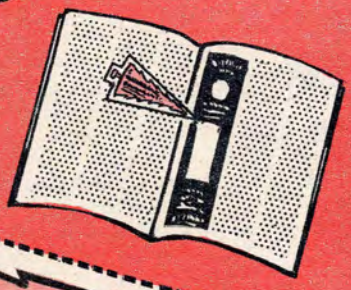

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THE WORLD'S FAMOUS RACING AIRCRAFT 1925-53 contains pictures, 3-views, data $1.50. John Underwood, 1122 "B" E. Lexington, Glendale 6, Calif.

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PLANS

550 1/72 SCALE AIRCRAFT PLANS 1914 to 1948. Also aviation books. Send 25c coin for lists and 3 sample plans. L. Breault, 180 Stevenson's Rd. South, Oshawa, Ont., Canada.

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AIRCRAFT PHOTOS—5 in set 25¢. Samples and list 15¢. New North American F86K, 5 x 7 photo 35¢. Special offer: 12 sets of photos 60 in all, plus album $2.50. Harry McIntyre, Box 423, Ocean City, New Jersey.

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MOBILES—COMPLETE KITS TO MAKE wonderful mobiles. Everything you need to assemble. Choice of outer space or airplane motif. One dollar postpaid. Poese Mobiles, 21870 Priday Avenue, Cleveland 23, Ohio.

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BEAUTIFUL MODEL BOAT, radio-controlled, 28" Chris-Craft, Sterling B-6M. 27,255 receiver, transmitter, complete $35.00. Reverend Robert W. Mark, 130 Main Street, Wellsboro, Pa.

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OUR PLEDGE

- No Kit Contains Better Materials!
- All balsa grade AAA!
- Hard balsa hand selected for all stress areas!
- Tough plywood parts!
- Heavy gas model silkspan
- No Kit Contains Better Workmanship!!!

P.D.Q. PRODUCTS CO.
MILLVILLE, N. J.

(*Continued from page* 87)

ports Everett—providing, of course, that the pilots are pretty much equals. Dick thinks that this trend might well result in the end of combat participation for the majority of flyers since more and more powerful engines will have to be employed.

"The question in some minds," says D.E., "is whether or not we will find it necessary to limit power to .35's for combat out here. These ships are getting faster and faster with a resultant increase in plane mortality rate. One thing for sure—if there ever was a spectator event in model contests, it is combat!"

$3,500 Meet. That's what the prizes were worth at the 8th annual Midwestern State air-model competition which was run off at Stout Field in Indianapolis. When all the shootin' was over grand champions emerged as: free flight king, Robert Sutton, 20, Topeka; control line champ, Harry Roe, 30, Dayton; and tops in radio control, L. D. Crisp, Perrysville, Ind. Nearly 300 entered 66 individual events making the contest one of the largest of the year in the mid-states area. Awards included wrist watches, suitcases and marble-base desk sets.

Control line events provided most of the drama at the action-packed meet as several entrants came close to speed records. High speed for the day was 152.48 mph established by a Class C model flown by Alfred Stegens, 24, of Cleveland. Top speed for jet models was 148.70 mph, achieved by James W. Richmond, 26, of Sullivan, Ind.

Representatives of 10 states participated in the meet which was sponsored by the Indianapolis Star, Allison Division of General Motors Corporation and Indiana Department of American Legion.

All Right, Mates, Let's Evaluate! Jerry Brummett of Box 312, Maysville, Okla., says we sure hit the spot with him when deBolt's "Over and Under" job appeared. He likes 'em big. Was happy to see "McGovern's Monster" too. Wants you readers to evaluate an idea for him. Idea came to him after reading an article in ATH on pressure tanks. To eliminate the problem of fuel backing up through the bleed line and flooding the engine while in inverted flight, Jerry suggests using a modified reed valve unit from a Thermal Hopper or Space Bug engine. He doesn't think the valve would offer too much resistance to a large engine but still would prevent the fuel from backing up. How about making the feed line *à la* clank tank? he asks.

Incidentally, fellows, Jerry would like to obtain copies of old full-size plans on Yates' Stearman and Cal Smith's AT-6 as well as Megow's 52" Piper Cub. Let him know if you can oblige.

Gilliam? Paul Gilliam? That's what Pvt. Bobby (Tex) Hawkins asks. "What ever happened to P.G.? Last I heard he was in California around L.A. I spent several months out there about a year ago but never did see him. Sure would like to get in contact with him to get some of the latest. I used to live in Lubbock, Texas, but Uncle Sam had a few changes to make so now I'm in Germany. Not much going on over here in models right now. Everybody is out riding thermals in their gliders. Sure will be glad to hear from anybody in the States and I'd like to have a few pointers on radio control. Got a Piper Tri-Pacer with 'rudder'; waiting to get home to really expand. Hope to get back to Lubbock around May '55 and contact with the R/Crowd. Boy, the Germans really love to watch any kind of model equipment. First time I took my R/C out I hit a little rough weather and had to repair the wing. They got a big kick out of the crackup. So now I let them gather round, then really put on a show. Sure do hate to leave it over here. Tell any of the U.S. guys to write and be sure to keep ATH coming for that is one of the biggest moments besides payday!"

O.K., Bob, we'll keep ATH coming. Paul Gilliam is a very successful photographer now. His address is Studio Graphic, 4123 Verdugo Rd., Los Angeles 65. Hawkins' address, folks, is Munich Det SASC7822 AU, APO 407 c/o P.M., NYC.

—The Dopester

SOUTHERN SCENES

Atlanta Team Racing Club. We just received some news on this from Sec. Bob Hoke. He writes: "The Atlanta Team Racing Club was organized in April 1954 with the sole idea of building and flying true team racers. It was started with only 12 members but now has increased to 25. The team racing bug has bitten many of the Atlanta modelers. The club now is one of the most active in the city with hopes of becoming much better. Our meetings are held the first and third Wednesday of each month at the Fiske Toy Co. which is also our sponsor.

"When the club was formed, we studied the A.M.A. team racing rules and decided to run strictly A.M.A. type models. A few revisions were made by the club to provide a more enjoyable show for the spectators.

"Our rules call for a two-ounce gas tank and no fuel shut-off. This keeps more planes in the air at a time. Each model is judged for beauty and workmanship and then pull-tested. Then we

33⅓% TRADE-IN ALLOWANCES

Mills .08 Diesel

1. We will allow 33⅓ trade in allowance for ANY old engine toward the purchase of any BRAND NEW engine or listed R/C equipment. Send trade-in plus check or money order for balance. C.O.D. orders accepted on deals when you send in a trade. On straight orders include at least $1.00.
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3. FREE .08 Mills Diesel with variable speed throttle ($13.95 value) with every full-price purchase of ECE receiver and transmitter.
4. All replies, orders, acknowledgements—24 hour service.

ENGINES	LIST	LESS ⅓
Allyn Sky Fury .049	$4.95	$3.37
Allyn Sea Fury .049	9.95	6.62
Atwood Outboard	9.95	6.62
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Elf Twin Glo	21.50	14.34
Elf Twin Ign	24.50	16.20
Elf Four Glo	45.50	30.34
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Fox 19	12.50	8.34
Fox 19 2 Speed	13.50	8.99
Fox 25	12.50	8.34
Fox 25 2 Speed	13.50	8.99
Fox 35	14.95	9.97
Fox 35 2 Speed	17.45	11.62
Fox 29	14.95	9.97
Fox 29 2 Speed	17.45	11.62
Fox 59	22.50	15.00
Fox 59 2 Speed	24.00	16.00
K & B 15	10.95	7.30
K & B 15 2 S	11.95	7.97
K & B 19 2 S	16.95	11.22
K & B 23	13.95	9.29
K & B 29	15.95	10.62
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ECE Receiver 27¼ mc	12.95	8.64
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Outfit Complete with Camera, Flash, Film, Bulbs.

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Use the Hobby Hinter on pages 88 & 89

KING PHOTO SUPPLY N. Y. 1, N. Y. 246—5th Ave.

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80 Aircraft are afforded a detailed 1/72 scale plan, some folding out to 11" x 14" plus photos and data. In addition, 132 further photos, data of other types. Book is 11" x 8¾", weighs 2 lbs., cloth bound and gilt blocked. In all, a total of 234 pages and 232 photos.

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10 day money back guarantee. Sorry no C.O.D.'s.

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Chris-Craft's 18' Outboard

Chris-Craft's 17' Outboard

Nine new outboard construction kits now available at all dealers. All an inch to the foot scale or larger. Actual large boat construction, framed hulls planked. Each kit complete with cement, decals, metal fittings, blade, sandpaper etc. Chris-Craft's 21" Monterey Cabin Express Cruiser at $3.95. Chris-Craft's 17' Speed Boat at $3.95, Chris-Craft's 18 foot Express, 18" long at $3.95. Chris-Craft's 14' Hornet runabout, 17½" model at $3.95. The new 16" "APACHE" conventional step hydroplane at $2.95. Chris-Craft's 28' Cruiser, 25' Express, 21' Sportsman, 21' Express now show outboard motor installation as well as inboard. WRITE for literature on 18 boat construction kits —$2.95 to $9.75, sixteen-inch to thirty-five-inch models.

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2114 S. Alvernon, Box 6096, Tucson, Arizona

1944—World's largest manufacturer of power boat kits—1954

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SWANEE

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For a new and relaxing experience: "SWANEE"! No fuss or muss; just flick the switch and watch the paddle wheel chop-chop the boat away from the shore. It's fun without R/C, but more so with it. And when you take it home, she will be proud to have it in the picture window.—28" Overall, 9" Beam. Electric powered. Die-cut & Colored TEAKWOOD. COMPLETE WITH CHAIN AND SPROCKET DRIVE. See it at your dealer.

NEW R/C WHEELS

2½" dia..$2.00 3" dia...$2.25
2¾" dia..$2.25 3½" dia..$2.50
(Hard Maple brass bushed hubs)
3½" dia. (DURAL HUB)...$3.50
Price per Pair, P.P. Singles at half price. Tire-on-Hub Guarantee. Large air volume bouncy tires your best protection.

5-1 R/C WINDER

1½" dia. gear case...$1.25 P.P.

Superfine Jap Tissue

INSTRUCTIONS: Apply dry. Use thinned dope for adhesive. Water dope. Many thinned coats for doping. Red, White, Blue, Yellow and Orange—25 sheets for $2.00 P.P.

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High Performance Model Glider for Radio Control, Thermal and Slope Soaring

SPAN —100 in.
LENGTH —50 in.
AREA — 800 sq. in.
GLIDE RATIO — 18:1
AIRFOIL — NACA 6409
"THERMIC 100" can easily carry 2 lbs.

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1 inch=1 ft. size; complete description

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Packet #12PP — FIGHTERS: Bell Kingcobra P-63 37½ ABsmC; Messerschmitt 109 32 ABsmC; P38 Lightning 52 BC; Hawker Tempest 34½ ABsmC; Douglas Dauntless SBD 40 ABsmC.

Packet #14PP — LIGHTPLANES — All AB: Piper Sky-cycle 30; Johnson Rocket 31; Globe Swift 29; Ercoupe 30; Culver V 29.

Packet #15PP — NATIONAL AIR RACERS: Gee-Bee 25AB; Howard Ike 30 lgBc; Pesco Spec. 25 BC.

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Packet #3PP—FIGHTERS: Northrup Black Widow P61; Hawker Hurricane 10; Hawker Tempest 10; Bell Kingcobra P63 9½; Douglas Dauntless SBD5 10½; Bell Airacomet P59A 12½; Messerschmitt 109G16 8½.

Packet #4PP—World War I FIGHTERS: Fokker D7 7½; Sopwith Camel 7; Fokker D8 7; Nieuport 17C.1 6½; Spad 13C.1 6½; Albatross DVa 7½; SE5a 6½.

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fly a qualifying speed run to determine the speed of each model. The fastest plane is put in first position in the first 30-lap heat race. Second fastest plane gets second position, and so on down the line. We run four planes to a heat. First place winner of each heat goes into a 150-lap feature race. Second-place winners go into a 100-lap consolation race. No pit stops are required for either race. We allow one minute to crank engines and at the end of this time, the green flag goes down. To this date we have yet to lose a single plane to foul flying.

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"Even though we are green at this type of model flying, our speeds are fairly good, with a winning speed being around 90 mph. At first the boys built kits, but now we're designing our own as well as modifying engines and for better performance mixing our own fuel.

"The first of the year we plan to convert to strictly A.M.A. team racing rules, and to sponsor regional team racing contests. Plans are now under way to have team racing as one of the events at the Greater Southeastern in 1955."

Sounds as if the "bug" has really bitten the Atlanta boys. Anyone interested in writing this Georgia club, address all correspondence to the club secretary Bob Hoke, 1156 Rosedale Dr. N. E. Atlanta.

Juniors Only Meet, nonsanctioned, was staged by the Acton Hobby Shop along with the Birmingham Exchange

(*Continued on next page*)

JCS Guide

(*Continued from page* 52)

costing up to $265, and this year 64 of them are available to any boy (or girl) throughout this country and Canada who can qualify. However, to pass around this service to youth as equitably as possible, various geographical areas get only a specified number of awards.

Among the qualifications: applicant must have ranked in the upper third of his high school class, must rate above the average in initiative and ambition (outside activities and work experience are taken into account).

In all cases the selection of a candidate is made by local people who know him, and from their reports the I.C.S. in Scranton pick the winners. Any nonsectarian, non-political group or organization of responsible citizens in your town that has received the recommendation of the I.C.S. representative in your area, can turn in your name as a candidate.

So the first thing for *you* to do is contact that representative and tell him you're interested. He will then request approval from his director for a selection by your organization. After that other things happen along prescribed lines.

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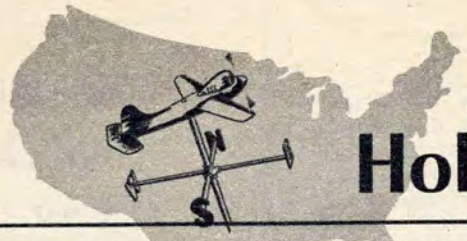

Hobby Shop Directory

Model Builders! Here's a listing of the nation's leading hobby shops. You'll want to file it away—and when you're in the neighborhood, drop in and browse around. They're expecting you.

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Club and the Davis brothers, Herb and Al. All trophies, with the exception of that for high-point, were donated by the brothers from their ever-growing collection. The high-point trophy was awarded by the Exchange Club of Birmingham.

Since this was a junior meet, all classes of speed were combined. Each contestant was given five minutes to start his engine and allowed six official flights. A free flight event was held with all classes also being combined. All flying ended at five o'clock in order that a special combat event could be held, this being open to all age groups.

A small group of Atlanta juniors attended and brought back nearly all the loot. Johnny Peaire, 15 years old, grabbed first in speed with his "B" job, turning a 116.0, and was also first in stunt. These two firsts gave him enough points to come out on top for the high-point award. Jean Ann Peaire, 12 years old, Johnny's sister, came along to take fourth in speed and fifth in stunt. Dan Berry, 15, also of Atlanta, came home with second in speed and second in combat.

An exhibition of radio control flying was staged at the end of the day's flying. We hear one of the models took a wild trip into the vast unknown.

Inspiration Story. Last week, I happened on to a bit of news that I feel should be passed along. A friend of mine, Herbert Rainwater, dropped by and said his son was getting started in U/C and needed some help. This sounds like an everyday happening, but in this case there was a good bit of difference. Herb's boy, now 11 years old, was afflicted at birth with cerebral palsy.

For a few years he could neither walk nor talk. Now, after attending a voice school and spending endless hours and days learning to walk, he has the spirit to feel that he will not be outdone by the other kids. All the boys in his neighborhood are building and flying model planes He can and has built many shelf models, but lacks the steadiness in his hands for real tedious work. His dad asked if I had any ideas on some type model that might get him flying sooner. My son, Bob, purchased a "Firebaby" kit and installed an engine that Herb brought over. That boy left the house wide-eyed and ready for flying. Herb said he feels that model building has helped tremendously . . . It occurred to me there are youngsters like this everywhere who could use an older modeler's help.

—R. H. Elliott

(*Continued on next page*)

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THE R/C GROUP HERE GOES FOR THE E.C.E. HARD TUBER ($12.95 LESS RELAY). ALSO THE LORENZ 2 TUBE KIT ($9.95 LESS RELAY). IT'S ONLY OUR OPINION, BUT NO OTHER RELAY BEATS THE SIGMA 4F ($6.95) "CONTROL MASTER" XMTR. VERY POPULAR AT $29.50, AMONG HAND-HELD XMTRS, THE E.C.E. AT $22.95 "BRINGS THEM BACK". SUPER AEROTROL AND McNABB "CIT-SHIP" STILL POPULAR. AUTHORIZED "ESSCO" DEALER--YOU NAME IT, WE'VE GOT IT. "POTS," RELAYS, ESCAPEMENTS, BATTERY BOXES, TUBES AND METERS ALWAYS ON HAND. USE THIS MAGAZINE AS YOUR CATALOG, (EXCEPT FOR THE GOOFY "GIVE-AWAY" ADS, AS MENTIONED ABOVE).

IF YOU LIVE IN A SMALL TOWN WITH JUST ONE "SHNOOK" DEALER (OR NONE AT ALL) THEN DEAL WITH US--WE KNOW YOUR PROBLEMS, AS WE'RE IN A HICK TOWN TOO (DIG THAT CRAZY ADDRESS, DAD). COMPREHENSIVE CATALOG READY SOON (SEND A DIME & GET YOUR NAME ON OUR MAILING LIST)

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(*Continued from page* 93)

WESTERN ROUNDUP

The Ava-Toros West Coast Speed Championships, although they provided plenty of flying for those who entered, really couldn't be considered a championship meet. Just why there weren't more entries is hard to say, unless two possible factors are considered. First, it it was on a holiday weekend which could possibly have kept some contestants away. The other factor was the short notice to the modelbuilders—just five weeks. The application for sanction was made in plenty of time, but the usual prompt reply was delayed until only five weeks were left. The contest was a financial flop due to this lack of contestants.

As far as the preparations were concerned, flyers never had it so good. The manufacturers were on hand for repair parts; hopped-up Ohlsson 2000, which has 40% nitro, was free to those who needed it, and Tornado props of all sizes and pitches were there for the asking. Ball-bearing pylons were embedded in concrete, the complete flying area was smooth asphalt, flying was unlimited, you flew as many times as you wanted, the timers and contestants were behind barricades, flying went on for 32 continuous hours all through the night. What else could be provided we don't know. There will be another such meet next year in May or June, bigger, we hope, and even better—just bring on the contestants.

We did have some contestants from the W.A.M. who did some excellent flying. Ken Andrus found it good enough to exceed the Jr. A/2 record. Along about 10 o'clock in the evening, Bill Wisnewski topped 155 in Class 3 FAI, then at ten minutes to one he put up his Class 2 Torp .29 job for over 142 mph. Lew Mahieu and Bill were the only ones who flew all night—and good flying, too.

Speeds except for Wisnewski's flying were very disappointing, for we had expected to see 170 mph topped for the first time in FAI Class 3. Bill won the lion's share of the prizes with firsts in every event he entered, Classes 1, 2, and 3 FAI, A-B & C AMA. Bob Dunham ended up second in most events, winning Jet FAI for his only first. Bob, though, elected to fly on Saturday only, leaving before the really good flying weather set in Saturday evening.

The officials and those who live nearby were very patient—never once did the police come around to put a stop to the night activities. The officials put in 36 hours of continuous work, and we were pooped after the contest was over.

Fine Flying Scale. The Inglewood Flightmasters have just completed their 5th Annual A/2 Flying Scale Contest, the biggest one yet, with 45 entries. Scale judging was the night before the contest, so flying started early Sunday morning at Sepulveda Basin, of all places, this being the first contest of any size at this site for some time. Quite naturally there were a lot of disgruntled contestants, specially those who had good true scale ships, for the weeds and ramshackle take-off boards invited disaster to those ships.

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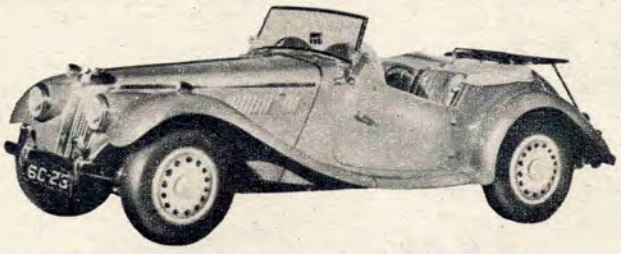

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The big news is that Louie Culler finally built a new ship. This time a Buhl Bull Pup—we don't know the details, but Louie got only 57 scale points. High scale man was again Dave Kulikoff with a Travelair 2000 and 93 points. We begin to wonder, after seeing how the points vary from contest to contest, if perhaps the judges are partial to certain ships, for some of the finest ships we have ever seen ended up in the low 80's and 70's, ships which had been judged up in the 90's and 80's at previous contests. No, it wasn't because they were beat up.

Sure was pleasant to watch those planes fight for duration, and not a bit monotonous, either. There were four Bird Dogs, four Cubs, three Helioplanes, then two each of the Super Cruisers, Robins and Voyagers, and look out!—Rearwin, Bull Pup, Zaunkoenig, Fokker E-3, Lutton Minor, Caudron, Messerschmitt, Fieseler Storch; in all over 30 different makes of models, a healthy situation indeed. No particular design showed up to any great advantage unless you want to count the Super Cruisers which placed 1st and 7th. Bob Hill won open with 381 points, 73 of which were scale points, Bob Bolling was second with 82 and 217, while Dick Baxter was 3rd with 72 and 199. In the Jr.-Sr. division, Hal Cover was tops with 81-103, Bob Steinbeck 2nd with 59-87, and Bobby Jones 3rd with 31-33. While on this scale stuff, San Diego is planning another scale meet in February—plenty of time to get ready, so don't say that we didn't warn you.

Boom in Air-Prop Cars. In a "bull session" with Lud Kading recently we discussed among other things "air cars." Seems like Lud and the K&B gang had Infant powered air cars going more than 40 mph, while the .035 cars hit more than 50. The next Ava-Toros contest will have cars going on 20.01 feet of lines and timed for 10 laps, which will equal a quarter mile. It will be interesting to see just how speed will be affected on this longer cable. Some guys have cars built to operate as either a tractor or a pusher in an effort to up speeds, but we do not think that speeds will go up much until the cars are run on smooth concrete. Pressure tanks will be used at the next meet. A very simple starter has been made using a 98¢ hand grinder which will also be used to start A/2 speed models. The pressure tank will undoubtedly increase speeds some, though how much remains to be seen.

Along R/C lines we expect to see the The FAST Club has a team race scheduled while the Ava-Toros have a 3 pylon event on the docket.

—Dick Everett

IN THE BIG JANUARY ISSUE!

Major "Hank" Bourgeois' Jamboree Stunt Plane

Hollinger's Piper Cub Radio Control Scale Job

Laughable "Little Arky"

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A Superior Lubricant for ALL Model Engines!

Add 500 R.P.M. to Your Engine Rating— by adding a few drops in the intake while the engine is running. One treatment lasts for hours.

Used in Atomic Energy Plants —

USED BY FIRST PLACE WINNERS AT THE '54 NATIONALS!

50c Per Tube...

See instructions on tube.

Enough to treat ten engines!

Guaranteed to reduce Friction 37% in all gas and diesel engines . . .

Tested by National Advisory Committee for Aeronautics. National Bureau of Standards says — "Friction less by 50 to 60% than Navy Reference Oil 2110." A Chemical Engineering Magazine says — "Lubricates perfectly at 1200 degrees." You can hear the improvement instantly.

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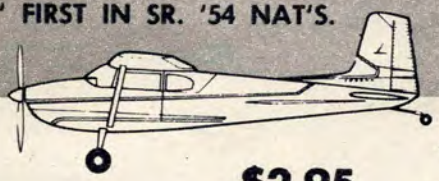
Berkeley's Christmas Gift Suggestions:

"1/2 A" FLYING SCALE...

"FAIRCHILD" FIRST IN OPEN AT '53 AND '54 NAT'S.
"AERONCA" FIRST IN SR. '54 NAT'S.

These full One-Inch Scale models have been designed for free-flight flying, and have proven themselves on the contest field. .035 to .049 engines, CO_2 or rubber power is suitable. For controline conversion, .049 to .099 engines are advised. Die-cut balsa parts.



$2.95

CESSNA "180"

Cessna's newest light plane, reproduced authentically and in detail. Perfect proportions for free-flight. Full Size Detailed Plans show rubber and controline adaptations. Pre-fabricated construction, Decals, etc.

For .035 to .049 Engines—35" Wingspan
1" Scale—Free-Flight, Rubber or Controline
.049 to .099 Engines for Controline use

$2.95

"SUPER CADET"

This is the current version of the "Interstate Cadet," many time National's winner. Authentically detailed and structurally re-designed for "½ A" free-flight. Full Size Plans show rubber, controline adaptations, etc.

For Free-Flight Gas — Controline — Rubber Power

$2.95

Cessna L-19

"BIRD DOG"

.035 to .049 Engines for Free-Flight
.049 to .099 Engines for Controline

In active duty in Korea, this new liaison plane is perfect in proportions for model work. Plans show it as a free-flight "½ A" gas, with details for rubber and controline conversion. Fuelproof decals, die-cut balsa, plywood and celluloid; shaped and notched wing edges; formed gear, etc.

$1.95

STINSON SENTINEL "L-5"
33½" Wingspan

This model is a consistant winner at National Meets. It is a commercial version of the Army's "Flying Jeep."

$1.95

STINSON VOYAGER "150"
34" Wingspan

Equipped with wing slots, this authentically detailed model flys with the best. Designs in this series have been chosen for performance.

$1.95

FAIRCHILD 24 "RANCHER"
36½" Wingspan

Largest in the series is the never to be forgotten Fairchild. Stable, strong, detailed, it is ideal for contest experimentation.

$1.95

AERONCA SEDAN
34" Wingspan

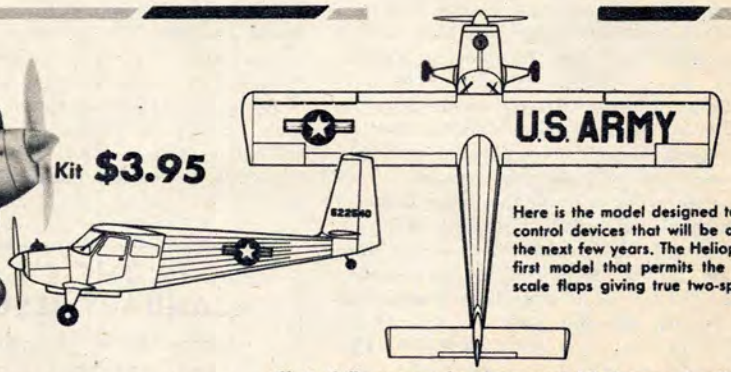
Featured as a landplane, plans show pontoon details for those desiring the added thrill of water take-offs. Finished model is really spectacular.

$1.95

CULVER "V"
29" Wingspan

This low-wing sport plane turns in long stable flights. The tricycle landing gear adds realism to landings.

Kit $3.95



Army Liaison YL-24 "HELIOPLANE"

Variable Camber Wing for Two-Speed Radio Control Flying!

38¾" Wingspan—1" Scale
For .049 to .14 Engines

Here is the model designed to use radio control devices that will be available in the next few years. The Helioplane is the first model that permits the use of the scale flaps giving true two-speed flight.

Slotted flaps may be depressed 10 degrees for Free-Flight, depressed 25 degrees for slow speed radio control flying; or raised 5 degrees for high speed flight.

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Berkeley's "SUPER AEROTROL"

Ideal as a Christmas Gift!

27mc. Crystal Control **Radio Control** No Examination Required!

COMBINATION OFFER — Save $3.95

Including:
"Super Aerotrol" Receiver Kit
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$29.95

READY-TO-OPERATE

Including:
Transmitter; Antenna; Receiver; Escapement; & 0.3 Milliammeter.

Only **$49.95**

"Super Aerotrol" Dust Core Tuned **RECEIVER**

In Kit Form: less tube **$13.95**

- NEW "locked-channel" dust-core tuning.
- Light in Weight, 2¾ oz. less batteries.
- Super-regenerator circuit, dependable.

Kit includes: Finished, tested sensitive relay; finished dust-core tuner; drilled bakelite base with condensors and eyelets attached; all electrical components, condensors, resistors, coils, chokes and potentiometer; all necessary contacts, and color-coded wiring. Can be assembled in less than two hours. Complete instructions are included.

For Those Who Want to Build Their Own-

The finest Radio Control Assembly Kits that money can buy. No surplus components - no used parts. Every part engineered for its specific job. Proven by over five thousand satisfied users.

"Super Aerotrol" Crystal Controlled **TRANSMITTER**

In Kit Form: less tube **$19.95**

- Portable — Self contained — No separate antenna — No external Batteries!
- Operates on 27.2 mc. · Weighs 3.5 lbs.

Kit includes all necessary parts (except tube and batteries): Precision Ground Crystal; Painted Metal Cabinet; Finished Sectional Antenna; stamped and formed chassis with all holes punched; all necessary components, resistors, condensers, coils and chokes; color coded wiring. Can be assembled in less than two hours. Complete building and operating instructions are included.

R.C. KITS

$3.95

BOOTSTRAPS "A-RC"

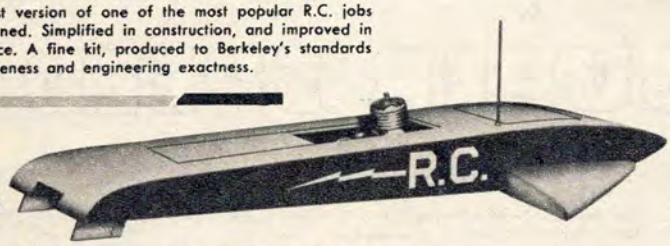
For .09 to .14 Engines — 54" Wingspan
(Empty weight 21 oz. — Radio, Equip., 14 oz. max.)

$6.95

Dr. Walter Good's
"ROYAL RUDDERBUG"

.14 to .23 Engines — 62" Wingspan

The newest version of one of the most popular R.C. jobs ever designed. Simplified in construction, and improved in performance. A fine kit, produced to Berkeley's standards of completeness and engineering exactness.



$3.95

SEA BIRD "RC-28" "A-B" Race Boat

For .09 to .35 Engines — 28" Length

The Sea Bird "RC-28" was designed for use either with or without radio control. Simple to build, it enables the builder to race the boat the next day after he buys the kit!

"A-B" MARINE HARDWARE SET
For .014 to .036 Engines
$2.95

READ THIS NEW BOOK ON:

SUPER SENSITIVE ADJUSTABLE-CONTACT RADIO CONTROL RELAY

$7.50

HELICOPTERS-

CLIMB VERTICALLY - HOVER - FLY FORWARD OR BACKWARD

EASY-TO-BUILD!

CLOUD-COPTER "TR"
WITH ADJUSTABLE PITCH TAIL ROTOR
For .045 to .074 Engines — 25" Rotor Span **$3.50**

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WITH "CYCLO-MATIC" CONTROL FINS
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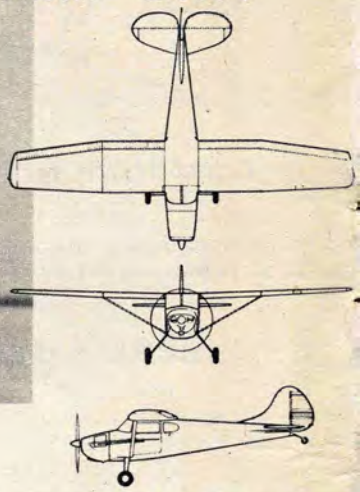
R.C. FLYING SCALE

Ideal as a Christmas Gift!

PRE-FABRICATED KIT INCLUDES:

- Full Size Plans with R.C. and PAA-Load Installation Details
- Sharply Die-Cut Balsa
- Formed Metal Landing Gear
- Hardware
- Covering Material
- Die-Cut Celluloid
- Mahogany Motor Mounts
- Authentic Full Color Decals
- Die-Cut Mahogany Plywood
- Pre-Fabricated Block Balsa
- Selected Strip Balsa
- Pre-Fabricated Wing Edges



Berkeley's

Designed by: Henry Struck **$9.95**

CESSNA "170"

For Radio Control — Free-Flight — PAA-Load

For .25 to .35 Engines — 72" Span — 2" Scale

Controlling your "170" by Radio is a thrill you will never forget! Perfect scale, rugged, stable in all attitudes, yet responsive in control with good wind penetration qualities. Gear location is ideal for extended take-off runs, while its larger size makes it less sensitive to turbulent air. A large cabin makes extra radio installations easy.

The plans include a wealth of scale details which will appeal to the master craftsman. Inexperienced builders will find construction simplified by the full size plans, sketches and assembly technique.

Inspect the "170" and its many features at your dealer. Study its design, examine the material, and visualize its performance on the contest field.

R.C. AMPHIBIAN...

Fly it on Ponds – Rivers – Bays – Lakes or Flying Fields!

Fly it Five Ways:

- Seaplane (R.O.W.)
- Landplane (R.O.G.)
- Radio Control
- PAA-Load
- Clipper Cargo

- Detailed Full Size Plans
- Shaped Leading, Trailing Edges
- Die-Cut Balsa and Plywood
- Celluloid Bubble Canopy
- Metal Ring Cowl
- Hardware, Covering Materiel
- Selected Strip Balsa

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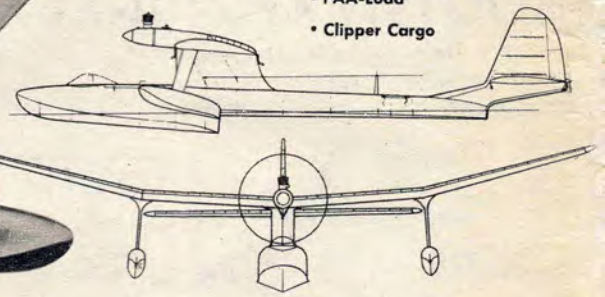


Henry Struck's "SEA-CAT"

N.A.C.A. Type Planing Hull Amphibian

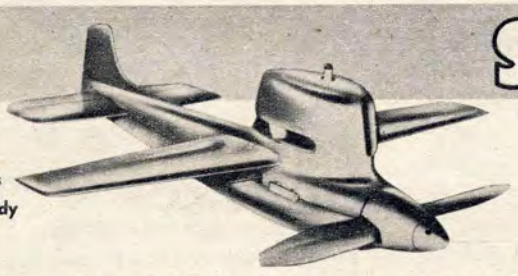
For .15 to .25 Engines — 68" Wingspan

Proven performance on the original test models include: First International Radio Control Flight; Fourth place in a field of seventy in the Mirror Flying Fair (The first R.C. contest for both Struck and the "Sea-Cat"); First in Radio Control at Screamin' Demons Long Island Sound Hydro Championship; Second in PAA-Load at the same contest; and Precision flights carrying over a pint of fuel at the First "World Model Air Olympics."

First All-Purpose Gas Model

Here is a model design that has been a full thirteen years in development. It's N. A. C. A. Planing Hull design makes water take-offs easy. Its hull is easily accessible for radio control equipment, PAA Dummy Pilot or Clipper Cargo.

SUPER SPEED...

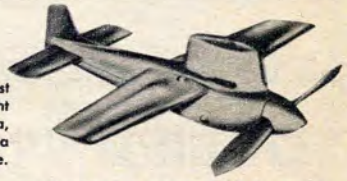


Each Kit Contains:

- Formed Aluminum Wings
- Carved and Hollowed Body
- Jim Walker "U-Control"
- Plywood Tail Assembly
- Shaped and Drilled Bonnet
- All Necessary Hardware
- Full Size Detailed Plans

Designed by: Bob Elliot

The "Mini and Super Whirlaway's" are Berkeley's newest competition speed designs. Minimum frontal area, light weight design, correct angular set-up, balance and area, plus mirror-smooth aluminum wings combine to give you a design that flies fast low and level toward the hardware.



SUPER WHIRLAWAY "A-B"

For .19 to .29 Engines—12½" Wingspan **$4.95**

MINI WHIRLAWAY "½A"

For .049 Engines—8¼" Wingspan **$2.95**

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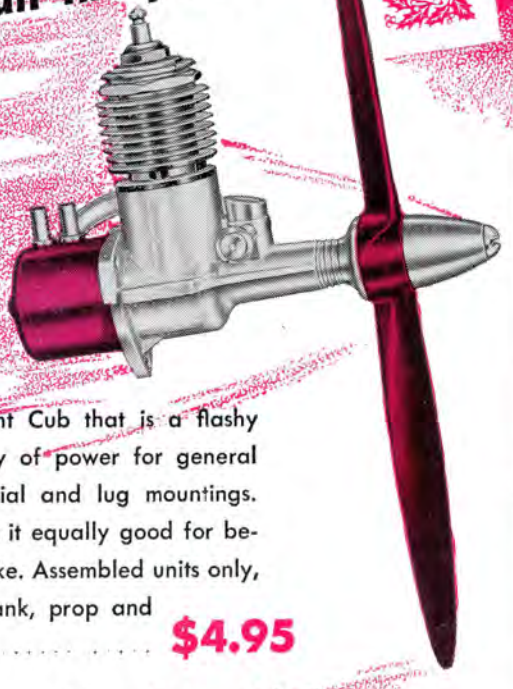
"OK" Cubs make OK Gifts *for Christmas* and all the year!

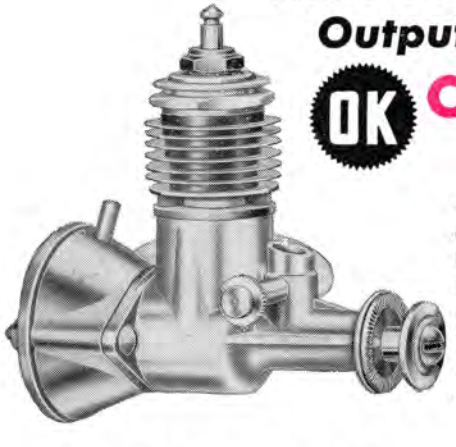
OK CUB .049B



HERE'S a light-weight Cub that is a flashy performer with plenty of power for general flying. Has both radial and lug mountings. Versatility that makes it equally good for beginner and expert alike. Assembled units only, complete with fuel tank, prop and spinner **$4.95**

Short Stroke, High Output for the Expert

OK CUB .049X



A top performer in the 1/2 A Class for the advanced hobbyist. Displaces, .049 with a bore of .420 and a stroke of .360. Lighter weight and greater power make it ideal for contest flying. Radial mounting for either direct connected or remote fuel tank. Combination package containing engine, prop, fuel tank, extra rear cover and neoprene tubing..... **$5.75**

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Pint **85¢**

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Short or long —
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Power Kit
$3.95

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